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JOURNAL

OF THE

Michigan Schoolmasters' Club

FORTY-SEVENTH MEETING

Held in Ann Arbor, March 26, 27, 28, 29, 30, 1912

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Michigan Schoolmasters' Club

PROCEEDINGS OF THE FORTY-SEVENTH MEETING, HELD AT
ANN ARBOR, MARCH 26, 27, 28, 29, 30, 1912.

EDITED BY THE SECRETARY.

GENERAL MEETING

The forty-seventh meeting of the Michigan Schoolmasters' Club began on Tuesday, March 26, with a meeting of the classical Conference and the Art Association. On Wednesday the Classical Conference and the Modern Language Conference had sessions, and an address on Iridescent Colors of Birds and Insects was given by Professor A. A. Michelson of Chicago University.

The General Sessions of the Club were held on Thursday and Friday mornings. Thursday morning was given over to the teachers of mathematics. President David Felmley of the Illinois State Normal University read a paper entitled "Some Neglected Points in the Teaching of Algebra and Geometry," and Professor C. J. Keyser of Columbia University, New York, read a paper on "The Humanization of the Teaching of Mathematics." Both of these papers are printed in these proceedings. On Friday morning four papers were given. Miss Sarah Louise Arnold, Dean of Simmons College, Boston, spoke upon the subject "What Next in Education," and Miss Mary Hinsdale, of Ann Arbor led in the discussion of the same. Supt. Wales C. Martindale of Detroit read a paper upon "The School as a Social Center," and Professor S. B. Laird of the Michigan State Normal College led in the discussion. Miss Julia B. Doran, Grand Rapids, read a paper on "The Question of Pensioning Teachers," and Professor Bradley M. Thompson led in the discussion. Professor W. H. Butts, assistant Dean of the Engineering Department of the University of Michigan spoke upon the requirements for admission to the Engineering Department. Papers by Mr. Martindale, Miss Doran, and Mr. Butts were handed in and are printed in the proceedings.

On Thursday afternoon conferences were held by the Classical, Modern Language, Physics and Chemistry, and History Sections, after which the

High School Principals held a meeting, and the young ladies of the University gave an exhibition of the work done in their gymnasium.

On Friday afternoon conferences were held by the Classical, English, Modern Language, Physics, Physiography, and Commercial sections, after which a musical program was given in University Hall by members of the University School of Music Faculty. At 6 o'clock the Alumnae of the University held a banquet and at 8 o'clock the Junior girls play was given in Sarah Caswell Angell Hall.

On Saturday morning the Commercial Conference held a meeting in the High School Auditorium and a Round Table Conference of the Woman's League, and the Association of Collegiate Alumnae held one in Barbour Gymnasium.

Altogether the meeting was the largest and best in the history of the club, and showed that the teachers of this and other states are working up to the fact that much benefit can be derived by attending such gatherings, meeting their fellow workers, listening to and taking part in the program. The Secretary publishes all papers recommended and handed to him by the President of the Club and by the chairman of the several Conferences. The program of the meeting is printed in full at the end of the proceedings.

This year being the end of the tenth that the present Secretary has been in office, he has, for the sake of history, tabulated on the last pages of this book the names of the teachers who have been members of the club for three, five and ten, or more, consecutive years, together with the names of these who belong this year.

SOME NEGLECTED POINTS IN THE TEACHING OF ALGEBRA AND GEOMETRY.

DAVID FELMLEY, PRESIDENT OF ILLINOIS STATE NORMAL UNIVERSITY.

Of all the subjects taught in the secondary school geometry is the oldest. The field to be covered, the method of the subject, the logical sequence of its parts admit of little variation and are not often matters of discussion. Only a few of the ideas of the so-called modern geometry have gained a foot-hold in the high-school course. On all hands it is admitted to be a subject requiring rigorous application and the opinion prevails widely that since there is no royal road to the subject, skill in teaching it is largely a matter of personal influence, or the shewd handling of incentives to vigorous effort. Under these circumstances it appears that there is really little demand for a discussion of the teaching of the subject.

That thru all these years there have been many good teachers of geometry we can scarcely doubt, but I cannot admit that their success has

rested chiefly upon their power to stimulate boys and girls to extraordinary exertion. Whether consciously or not their teaching has conformed in large measure to those everlasting laws that must govern all learning and hence all effective teaching. Failures have been due to the violations of these laws. Improvement in teaching must come through attention to the psychological factors. It is the mode of presentation that demands our attention, the best way to adapt the material to the interests and aptitudes of our students.

The chief cause of poor teaching is a faulty conception of mind, an ancient conception no longer countenanced in the treatises on psychology yet underlying much of our thinking and more of our practice. It is the doctrine that MIND, wherever active, possesses the same powers, energies, motives, interests, aptitudes, tendencies, and modes of procedure. In a book published by the Macmillans not six months ago, it is declared that if a person has been blind from birth his mind knows how to see. His defective body prevents his seeing. If the defect can be removed by a surgical operation, the person can see at once and see perfectly.

This popular psychology is altogether at variance with the findings of the students of childhood. They find, as every teacher ought to know, that the mind grows as truly as the body grows. It takes years of experience in seeing with the accompanying testimony of other senses and the assistance of a body of interpreting ideas to enable us to translate the light and shade and color of a retinal image into terms of relief and distance, of function and relation. In the same way geometrical concepts are of slow growth, and the child must learn them in his own way and largely at his own time. Yet in hundreds of classrooms, as the master's adult mind has organized the facts of the subject, so he presents them to the child. His methods are logical rather than psychological. He gives the finished product without reference to the pupil's immaturity.

There are at least four distinguishable stages in the development of a child's interest in the material that we may call geometry:

The first stage corresponds to the constructive activities of the kindergarten and the primary school. Through paper-folding and cutting, through making boxes and paper toys, and especially through the use of building blocks he learns the relative dimensions and constructional possibilities of squares, triangles, cubes, prisms, plinths, cylinders, and other forms. The concepts slowly elaborated serve as norms in all his thinking where space relations are involved.

In the block with your speaker lives a boy who from his fourth to his eighth year was supplied with successive sets of Richter blocks. His chief indoor amusement was to erect complex bridges, castles, and cathedrals from the simple materials. To-day a boy of sixteen, although an indifferent student in other subjects, he is easily first in his class in geometry.

The second stage falls near the end of the elementary school course. No problems in arithmetic at this period are more welcome than those

involving lengths, areas, and volumes. The same interest attaches to the study of the properties of geometrical figures, but the boy of fourteen is more interested in the truth as a fact of experience than in the proof of its logical necessity. A right angle (half a straight angle) is made by folding the edge of a sheet of paper upon itself and creasing the fold. By making an oblique cut across the sheet thus folded he obtains an isosceles triangle with its equal legs, its equal angles at the base, and its altitude bisecting the angle at the vertex, bisecting the base, and perpendicular to the base. By tearing a paper triangle into three pieces and placing the three vertexes at a common point he sees that the sum of three angles is a straight angle.

Since parallels are lines having the same direction, two lines having the same difference of direction from a third line must be parallel. From this he learns to draw parallel by means of a ruler and a postal card or triangle that slides along it. He builds rectangles of inch squares and sees the mode of computing their area? He divides a rhomboid along one of its altitudes and transforms it into a rectangle of the same base and altitude as before. He folds one end of the triangle upon the other so that the crease perpendicular to the base runs thru the vertex. He folds the vertex upon the foot of this altitude and makes a new crease parallel to the base. When the triangle is cut along this crease and the upper half of the altitude the three parts properly placed yield a rectangle with the same base as the original triangle and half its altitude. He can now compute its area. He checks his work upon any triangle by measuring the three altitudes and corresponding bases, and making the separate computations of area. He finds these altitudes meet at a common point. Similarly he finds by folding and creasing that the three perpendicular bisectors of the sides meet at a common point, the center of the circumscribed circle; that the three bisectors of the angles meet in a common point, the center of the inscribed circle.

He finds, too, that a triangle will balance on a line running from a vertex to the middle point of the opposite side, and that if all three of these lines (medians) be drawn the triangle can be balanced on their common point, hence on any line running thru this common point. He draws with care the squares upon three sides of a right-triangle. He divides the smaller squares into four parts which when properly fitted together will just cover the square on the hypotenuse. DeMorgan has pointed out three ways in which the cutting may be done.

These illustrations may be continued indefinitely. Practically all the important truths demonstrated in our high-school geometry may thus by paper folding, by drawing and measuring, by construction in wood and cardboard, be discovered as properties of the figures studied. But at no time are the truths set up as ends to be discovered for their own sake. They are discovered incidentally in the search for a way of doing something—the drawing of a figure, the solution of an arithmetical problem, the construction of some design in cardboard, wood, or metal. The practical end gives motive and direction.

After Herbert Spencer had become famous, the exercises in involutional geometry used by his father, George Spencer, a famous teacher of mathematics, were published and used by some American teachers. About fifteen years ago two other excellent books appeared. They did not meet with wide adoption. To many teachers it meant the introduction of another study into the crowded curriculum of the grammar school. It is not the best to make this a separate and isolated study. When our grammar-school arithmetic is recast along right lines it will embrace these geometrical exercises. The fact that the truths of geometry were arrived at by the Egyptians and others experimentally and for practical ends long before Greek philosophers concerned themselves with their logical necessity will to the evolutionists among us suggest that our school procedure should observe the same sequence.

The third stage in the study of geometry is the demonstration of its truths by the method of Euclid. The work is usually well done, probably as well done as any other school subject. Some possible lines of improvement are here suggested:

Some pupils are slow to discover what a demonstration really is. These may be the causes:

1. For the sake of logical completeness we refuse to assume as axiomatic any proposition however evident to intuition and common sense, if it is possible to construct a so-called demonstration based on other axioms. Hence at the outset we confuse our students by "proving" that all straight angles are equal, that all right angles are equal, that a circle can have but one center, and so on. The first proposition to be demonstrated should be "If two straight lines intersect, the vertical angles are equal."

2. The five parts of a proof are not clearly distinguished and the nature of each comprehended. It should be seen that the statement of the proposition consists of two clauses, the *hypothesis* containing the *data* or given conditions, the *conclusion* the truth to be proved. The first clause is regularly introduced by the conditional conjunction "if." It is a mistake in the supposed interest of brevity to adopt any other form of statement. Hence we should not say "The sum of the angles of a triangle is two right angles" "In the same circle or equal circles equal chords subtend equal arcs," but rather, "If a figure be a triangle, the sum of its angles is two right angles. If equal chords be drawn in the same circle or in equal circles, they subtend equal arcs."

The student should see that the so-called particular enunciation is merely a restatement of the proposition with reference to the particular figure that he has drawn. He must put into his figure the exact conditions stated in the hypothesis and at this stage no others, and is to point out just what he is to prove in the particular figure. He must see too that while his figure is particular, it is typical of all figures containing the conditions of the hypothesis.

Then comes the auxiliary construction—the extending of a line, the drawing of a circumference, the superposition of one figure upon another.

The right to do these things is provided in the list of postulates. They are the rules of the game, but they are not to be learned in advance. They are best learned at one time, as the need of them appears, until the list is complete.

In the fourth part, the proof, complete syllogisms should be used for at least two months. The point to be grasped is that the minor premis is always some condition in the figure put there by the hypothesis or construction or established there by proof, and that the major premis is an axiom, definition or previous proposition. Altho our treatises on logic commonly state the major premis first, yet in building up a chain of syllogisms where the conclusion of one is the minor premis of the next, the minor premis seems naturally to come first in our thinking.

Some other common defects of method may be noted.

1. Propositions and corollaries are not thoroly learned after they are proved. In geometry these are the tools for attacking the propositions and problems that are ahead of us. A portion of each day should be spent in reciting groups of established truths. Thus, what has been proved of similar triangles? Of a radius perpendicular to a chord? of tangent circles? Such a classification of ascertained truths constitutes the best preparation for the attack upon original exercises.

2. Little care is taken in the assignment of lessons. Our books on pedagogy tell us that a good assignment is definite in content and amount, arouses interest in the new matter, points out its connections with old knowledge, and gives the student courage to attack it. I suspect that in a majority of classrooms the assignment is simply "Take the next three propositions." How much better, if we are to take up a new topic, say parallelograms, to draw the figure carefully with opposite sides parallel and then ask "How many pairs of equals do you see?" We draw one diagonal, then the other. As the different pairs are suggested, we test by measuring or superposition. "Can you prove it?" is then the question. With this form of introduction to each new figure or topic geometry is seen not as a mere series of propositions let down from antiquity, but as an inquiry into the properties of certain figures, an inquiry that yields valuable practical results.

Teachers and textbook makers should adopt a hospitable attitude towards the modern geometry. Some of its ideas illumine our classical geometry in a striking fashion. The Principle of Continuity especially should be used in every classroom to unify what are seemingly independent propositions. If two chords intersect, the angle formed is measured by half the difference of the intercepted arcs. Now let one chord move sidewise, always parallel to its original position until the intersection point is in the circumference, we now have an inscribed angle and one intercepted arc. Continue the movement, the point of intersection is outside the circle, one of the arcs becomes negative, the chord a secant, later a tangent. By moving the other chord in the opposite direction it too becomes a tangent. The angle has

remained of constant magnitude, always measured by half the (algebraic) sum of the intercepted arcs.

We are likely to be so lost in admiration of the beauty of geometry as a body of logic that we may think its only function in the curriculum is to exercise the student in deductive reasoning. Boys of sixteen admire people who can do things and value knowledge chiefly as it gives ability to do. Hence good teachers of geometry accumulate a stock of interesting practical applications of the truths they work out. Last week among a hundred questions given to students at Lake Forest to test their practical knowledge was this. How far can one see over the ocean from a height of one hundred fifty feet? Few students could answer it correctly. Lawyers and prominent men about town, even teachers, professors, and college presidents, according to our Chicago papers, fared no better. When we come to the proposition, If from a point without a circle, the tangent is a mean proportional between the whole secant and its external segment, we should follow it up with a few exercises like these:

1. The peak of Teneriffe, two miles high, is visible 125 miles at sea. What is the diameter of the earth

2. In canal engineering it is found that the surface of still water is depressed from a level line eight inches to the mile? What is the diameter of the earth?

3. Can Mount Marcy of the Adirondacks be seen across Lake Champlain from Mount Mansfield?

4. If the Rocky Mountains can be seen from the mouth of the Yellowstone, as asserted in the diary of Lewis and Clarke's Expedition, how high must they be?

5. Prove the following rule for determining the distance one can see over the ocean from an elevation. To the height in feet add half the height in feet, extract the square root of the sum. The result is the number of miles one can see.

(This simple rule is possible because 5280, the number of feet in a mile is two-thirds of 7920 the approximate number of miles in the mean diameter of the earth).

When boys learn that thru their knowledge of similar triangles they can compute the distance to inaccessible objects, the heights of towers, spires, chimneys, trees, and even of inaccessible objects their respect for this subject is mightily increased.

The definiteness of geometry makes it the finest subject in the curriculum for the development of ideals of precision and completeness in recitation. Yet many teachers make little use of it for this purpose. In the last school visited by the writer, the teacher drew all of the figures and did most of the talking, the pupils filling ellipses in his sentences. Hardly ever did one of them utter a complete sentence, much less stand at the blackboard and give the entire demonstration without question or interruption. We are prone to be tender-hearted, to accept any sort of evidence that a student understands

the proof, hence slipshod language and slack-twisted thinking prevails far too widely.

For the fourth stage of geometrical study—a stage not reached before the senior year—should be reserved the theory of limits and the propositions in proportion that involve incommensurable magnitudes. There is no profit in taking these up in the second year of the high school. Not one pupil in ten really comprehends them. Here, too, belong the more difficult computations affecting regular polygons and much of solid geometry. An old writer says, "God evermore protects us from knowledge for which we are not ready. Our eyes are holden so that we cannot see things that stare us in the face, until the hour arrives when the mind is ripened. Then we behold them and the time when we saw not is like a dream."

Algebra is studied by more high-school students than any other subjects, yet it is probably studied with less profit. It is doubtful whether teachers give much thought to its educational value or consider at all where such values lie. Pupils generally regard algebra as a separate science quite distinct from arithmetic, "because arithmetic" they say "deals with numbers while algebra deals with quantities." Algebra can never be taught right unless it is seen in right relations to arithmetic. As early as the sixth grade, we should begin to use letters to represent numbers, to solve general problems through their use, thus obtaining formulas that state in literal symbols the answer to every problem of the given type. The familiar conventions of the literal notation should be taught as needed.

In the same grade or earlier we should use equations in stating and solving problems. The symbol x may be introduced after awhile merely as a short-hand expression for the required number. In passing to the algebra of the high-school the student should experience no decided change. More complex problems giving rise to complex algebraic expressions are introduced and the pupil should be taught to add, subtract, and multiply polynomial expressions, to remove brackets, etc., as soon as he comes to such expressions in the equations he employs in the solution of problems, but no earlier.

As stated a generation ago by Professor Olney, algebra treats of the equation and is chiefly occupied in explaining its nature and the methods of transforming and reducing it, and in exhibiting the manner of using it as an instrument of mathematical investigation. Negative numbers should not be mentioned until problems involving opposing quantities are met with. The laws for manipulating negative numbers are often applied mechanically. "Minus multiplied by minus gives plus" is a meaningless formula with half the pupils that use it. The law of signs in multiplication should be arrived at through the investigation of a concrete case. Suppose this problem be taken: A dealer bought 20 hams of a farmer at \$3.70 each. He paid for each ham \$4.00 receiving 30 cents in change. Three hams proving bad the farmer refunded \$4.00 each and received 30 cents in change. What was the net amount received by the farmer? If all sums paid to the farmer are positive

and all sums paid by him are negativ, we see that the product of \$4.00—.30 multiplied by 20—3 will include the product of negativ 30 by negativ 3, a sum paid by the dealer to the farmer, hence positiv. The product primarily is positiv or negativ according to the character of the summands that make it up. The sign of the multiplier merely shows what is to be done with this product when taken in connection with other numbers.

No algebraic process is worth studying that does not originate in some concrete situation and end in concrete applications. Yet we spend the early months in the manipulation of long polynomials in the simplification of complex parenthetical expressions and complex fractions, the like of which the boy will never meet in the concrete problems that he will solv. To most pupils the process is utterly without meaning. It is simply a juggling with symbols according to the rules of the game—with symbols abstracted from all concrete reality.

We should therefore eliminate this useless rubbish, postpone until later the factoring of the more difficult expressions, the remainder theorem and expanding powers of binomials affected by negativ and fractional exponents. To the fifteen year old imaginary numbers are as incomprehensible as the fourth dimension. They, too, should wait. We then can find time for such a study of series as will enable us to comprehend something of annuities, bond investments, and life insurance. We may possibly be able to teach our pupils to use logarithms in computation.

The language of algebra should always reveal precisely the operation or relation intended. These operations are operations with numbers, hence the words add, subtract, multiply, divide, extract square root, etc., that describe operations with numbers are the only terms to be used in the early months. Such terms as transposing, clearing of fractions, canceling, removing brackets, etc., too often suggest to students a mechanical operation with symbols rather than a real operation with numbers. I am too old-fashioned to welcome "over" and "into" to express division and multiplication. A year ago I heard in this bilding an able discussion of the need of a uniform nomenclature in grammar. Do we not need also a uniform rational nomenclature in algebra?

With the growing appreciation of the need of concrete problems, textbook makers are put to it to find concrete material in sufficient variety. As a consequence the relations involved are often of a highly artificial variety.

In a recent textbook I find—

The total number of students at the Universities of Illinois, Michigan and Wisconsin during the year 1905-06 was 12,216. Twice the number at Illinois, plus three times that at Michigan, plus four times that at Wisconsin was 36,145. If the number at Michigan be subtracted from the sum of the numbers at Illinois and Wisconsin, the remainder is 3074. Find the number at each university.

This is because the author feels that the student's knowledge is limited to time, areas, volumes, money, and numbers of objects. Are we not in

algebra endeavoring to develop an instrument of computation far in advance of any real need of it. Would there not be a positiv gain in time, not to speak of its effect upon the student's habits of thinking and of study, if we should teach enuf of astronomy or physics to open up problems in which algebra would be of real servis, problems that deal with permanent magnitudes and permanent relations. I recall when I was first askt to find the uniform ratio of the tones (half-steps) in an even-temperd piano, and to compare this ratio or its square with the intervals in the major scale. It was laborious enuf—to calculate without logarithms the twelfth root of 2,—yet it was a joy, for I wanted to *know* the answer not merely to *find* it. Such a problem is worth pages of the ordinary sort.

THE HUMANISATION OF THE TEACHING OF MATHEMATICS.

PROFESSOR C. J. KEYSER, COLUMBIA UNIVERSITY.

When the distinguished chairman of your Mathematical Conference did me the honor to request me to speak to you, he was generous enough, whether wisely or unwisely, to leave the choice of a subject to my discretion, merely stipulating that, whatever the title might be, the address itself should bear upon the professional function of those men and women who are engaged in teaching mathematics in secondary schools. Inexpertness, it has been said, is the curse of the world; and one may not unnaturally feel some hesitance in undertaking a task that might seem to resemble the role of a physician when, as sometimes happens, he is called upon to treat a patient whose health and medical competence surpass his own. I trust I am not wanting in that natural feeling. In the present instance two considerations have enabled me to overcome it. One of them is that, having had some experience in teaching mathematics in secondary schools, I might, it seemed to me, regard that experience, though it was gained more than a score of years ago as giving something like a title to be heard in your counsels. The other consideration is that, in regard to the teaching of mathematics, whether in secondary schools or in colleges, I have acquired a certain conviction, a pretty firm conviction, which, were it properly presented, you would doubtless be generous enough and perhaps ingenious enough to regard as having some sort of likeness to a message.

My conviction is, that hope of improvement in mathematics teaching, whether in secondary schools or in colleges, lies mainly in the possibility of humanising it. It is worth while to remember that our pupils are human beings. What it means to be a human being we all of us presumably know pretty well; indeed we know it so well that we are unable to tell it to one another adequately; and, just because we do so well know what it means to

be a human being, we are prone to forget it as we forget, except when the wind is blowing, that we are constantly immersed in the earth's atmosphere. To humanise the teaching of mathematics means so to present the subject, so to interpret its ideas and doctrines, that they shall appeal, not merely to the computatory faculty or to the logical faculty, but to all the great powers and interests of the human mind. That mathematical ideas and doctrines, whether they be more elementary or more advanced, admit of such a manifold, liberal and stimulating interpretation, and that therefore the teaching of mathematics, whether in the secondary schools or in the colleges, may become, in the largest and best sense, human, I have no doubt. That mathematical ideas and doctrines do but seldom receive such interpretation and that accordingly the teaching of mathematics is but seldom, in the largest and best sense, human, I believe to be equally certain. That the indicated humanisation of mathematical teaching, the bringing of the matter and the spirit of mathematics to bear, not merely upon certain fragmentary faculties of the mind, but upon the whole mind, that this is a great desideratum is, I assume, beyond dispute.

How can such humanisation be brought about? The answer I believe, is not far to seek. I do not mean that the answer is easy to discover or easy to communicate. I mean that the game is near at hand and that it is not difficult to locate it, though it may not be easy to capture it. The difficulty inheres, I believe, in our conception of mathematics itself; not so much in our conception of what mathematics, in a definitional sense, is, for that sense of what mathematics is has become pretty clear in our day, but in our sense or want of sense of what mathematics, whatever it may be, humanly signifies. In order to humanise mathematical teaching it is necessary, and I believe it is sufficient, to come under the control of a right conception of the human significance of mathematics. It is sufficient, I mean to say, and it is necessary, greatly to enlarge, to enrich and to vitalize our sense of what mathematics, regarded as a human enterprise, signifies.

What does mathematics, regarded as an enterprise of the human spirit, signify? What is a just and worthy sense of the human significance of mathematics?

To the extent in which any of us really succeeds in answering that question worthily, his teaching will have the human quality, in so far as his teaching is, in point of external circumstance, free to be what it would. I believe it is important to put the question, and it is with the putting of it rather than with the proposing of an answer to it that I am here at the outset mainly concerned. For any one who is really to acquire possession of an answer that is worthy must win the answer for himself. I need not say to you that such an acquisition as a worthy answer to this kind of question does not belong to the category of things that may be lent or borrowed, sold or bought, donated or acquired by gift. No doubt the answers we may severally win will differ as our temperaments differ. Yet the matter is not solely a matter of temperament. It is much more a matter first of knowl-

edge and then of the valuation of the knowledge and of its subject.. To the winning of a worthy sense of the human significance of mathematics two things are indispensable, knowledge and reflection: knowledge of mathematics and reflection upon it. To the winning of such a sense it is essential to have the kind of knowledge that none but serious students of mathematics can gain. Equally essential is another thing and this thing students of mathematics in our day do not or do but seldom gain. I mean the kind of insight and the liberality of view that are to be acquired only by prolonged contemplation of the nature of mathematics and by prolonged reflection upon its relations of contrast and similitude to the other great forms of spiritual activity.

The question, though it is a question about mathematics, is not a mathematical question, it is a philosophical question. And just because it is a philosophical question, mathematicians, despite the fact that one of the indispensable qualifications for considering it is possessed by them alone, have in general ignored it. They have in general ignored it, and their ignoring of it may help to explain the curious paradox that whilst the world, whose mathematical knowledge varies from little to less, has always as if instinctively held the science of mathematics in high esteem, it has at the same time usually regarded mathematicians as eccentric and abnormal, as constituting a class apart, as being something more or something less than human. It may explain, too, I venture to believe it does partly explain, both why it is that in the universities the number of students attracted to advanced lectures in mathematics compared with the numbers drawn to advanced courses in some other great subjects not inherently more attractive, is so small; and why it is that, among the multitudes who pursue mathematics in the secondary schools, only a few find in the subject anything like delight. For I do not accept the traditional and still current explanation, that the phenomenon is due to a well-nigh universal lack of mathematical faculty. I maintain, on the contrary, that a vast majority of mankind possess mathematical faculty in a very considerable degree. That the average pupil's interest in mathematics is but slight, is a matter of common knowledge. His lack of interest is, in my opinion, due, not to a lack of the appropriate faculty in him, but to the circumstance that he is a human being, whilst mathematics, though it teems with human interest, is not presented to him in its human guise.

If you ask the world—represented, let us say, by the man in the street or in the market place or the field—to tell you its estimate of the human significance of mathematics, the answer of the world will be, that mathematics has given mankind a metrical and computatory art essential to the effective conduct of daily life, that mathematics admits of countless applications in engineering and the natural sciences, and finally that mathematics is a most excellent instrumentality for giving mental discipline. Such will be the answer of the world. The answer is intelligible, it is important, and it is

good so far as it goes; but it is far from going far enough and it is not intelligent. That it is far from going far enough will become evident as we proceed. That the answer is not intelligent is evident at once, for the first part of it means to imply that the rudimentary mathematics of the carpenter and the counting-house is scientific, which it is not; the second part of the answer is but an echo by the many of the voice of the few; and, as to the final part, the world's conception of intellectual discipline is neither profound nor well informed but is itself in sorry need of discipline.

If, turning from the world to a normal mathematician, you ask him to explain to you the human significance of mathematics, he will repeat to you the answer of the world, of course with far more appreciation than the world has of what the answer means, and he will supplement the world's response by any important addition. He will add, that is, that mathematics is the exact science, the science of exact thought or of rigorous thinking. By this he will not mean what the world would mean if the world-employed, as sometimes it does employ, the same form of words. He will mean something very different. Especially if he be, as I suppose him to be, a normal mathematician of the modern critical type, he will mean that mathematics is, in the oft-cited language of Benjamin Peirce, "the science that draws necessary conclusions,,"; he will mean that, in the felicitous words of William Benjamin Smith, "mathematics is the universal art apodictic"; he will mean that mathematics is, in the nicely technical phrase of Pieri, "a hypothetico-deductive system." If you ask him whether mathematics is the science of rigorous thinking about *all* the things that engage the thought of mankind or about only a few of them, such as numbers, figures, certain operations, and the like, the answer he will give you depends. If he be a normal mathematician of the elder school, he will say that mathematics is the science of rigorous thinking about only a relatively few things and that these are such as you have exemplified. And if now, with a little Socratic *peristence*, you press him to indicate the human significance of a science of rigorous thinking about only a few of the countless things that engage human thought, his answer will give you but little beyond a repetition of the above-mentioned answer of the world. But if he be a normal mathematician of the modern critical type, he will say that mathematics is the science of rigorous thinking about all the things that engage human thought, about *all* of them, he will mean, in the sense that thinking, as it approaches perfection, tends to assume certain definite forms, that these forms are the same whatever the subject matter of the thinking may be, and that mathematics is the science of these forms *as forms*. If you respond, as you may well respond, that, in accordance with this ontological conception of mathematics, this science, instead of thinking about *all*, thinks about *none*, of the concrete things of interest to human thought, and that accordingly Mr. Bertrand Russell was right in saying that "mathematics is the science in which one never knows what one is talking about nor whether what one says is true,"—if you respond that,

from the point of view above assumed, that delicious *mot* of Mr. Russell's must be solemnly held as true, and then if, in accordance with your original purpose, you once more press for an estimation of the human significance of such a science, I fear that the reply, if your interlocutor is a mathematician of the normal type, will contain little that is new beyond the assertion that the science in question is very interesting, where, by interesting, he means, of course, interesting to mathematicians. It is true that Professor Klein has said: "Apart from the fact that pure mathematics cannot be supplanted by anything else as a means for developing the purely logical faculties of the mind, there must be considered here as elsewhere the necessity of the presence of a few individuals in each country developed in a far higher degree than the rest, for the purpose of keeping up and gradually raising the *general* standard. Even a slight raising of the general level can be accomplished only when some few minds have progressed far ahead of the average." Here indeed we have, in these words of Professor Klein, a hint, if only a hint, of something better. But Professor Klein is not a mathematician of the normal type, he is hypernormal. If, in order to indicate the human significance of mathematics regarded as the science of the forms of thought as forms, your normal mathematician were to say that these forms, constitute of themselves, an infinite and everlasting world whose beauty, though it is austere and cold, is pure, and in which is the secret and citadel of whatever order and harmony our concrete universe contains, it would yet be your right and your duty to ask, as the brilliant author of "East London Visions" once asked me, namely, what is the human significance of "that majestic intellectual cosmos of yours, towering up like a million-lustered iceberg into the arctic night," seeing that, among mankind, none is permitted to behold its more resplendent wonders save the mathematician himself? But the normal mathematician will not say what I have just now supposed him to say; he will not say it, because he is, by hypothesis, a normal mathematician, and because, being a normal mathematician, he is exclusively engaged in exploring the iceberg. A farmer was once asked why he raised so many hogs. "In order," he said, "to buy more land." Asked why he desired more land, his answer was, "in order to raise more corn." Being asked to say why he would raise more corn, he replied that he wished to raise more hogs. If you ask the normal mathematician why he explores the iceberg so much, his answer will be, in effect at least, "in order to explore it more." In this exquisite circularity of motive, the farmer and the normal mathematician are well within their rights. They are within their rights just as a musician would be within his rights if he chanced to be so exclusively interested in the work of composition as never to be concerned with having his creations rendered before the public and never to attempt a philosophic estimate of the human worth of music. The distinction involved is not the distinction between human and inhuman, between social and anti-social; it is the distinction between what is human or inhuman, social or anti-social,

and what is neither the one nor the other. No one, I believe, may contest the normal mathematician's right as a mathematical student or investigator to be quite indifferent as to the social value or the human worth of his activity. Such activity is to be prized just as we prize any other natural agency or force that, however undesignedly, yet contributes, sooner or later, directly or indirectly, to the weal of mankind. The fact is that, among motives in research, scientific curiosity, which is neither moral nor immoral, is far more common and far more potent than charity or philanthropy or benevolence. But when the mathematician passes from the role of student or investigator to the role of teacher, that right of indifference ceases, for he has passed to an office whose functions are social and whose obligations are human. He has not the right to chill and depress with the encasing fogs of the iceberg. It is his privilege and his duty, in so far as he may, to disclose its "million-lustred" splendors in all their power to quicken and illuminate, to charm and edify, the whole mind.

The conception of mathematics as the science of the forms of thought as forms, the conception of it as the refinement, prolongation and elaboration of pure logic, is, as you are doubtless aware, one of the great outcomes, perhaps I should say it is the culminating philosophical outcome, of a century's effort to ascertain what mathematics, in its intimate structure, is. This conception of what mathematics is comes to its fullest expression and best defense, as you doubtless know, in such works as Schröder's *Algebra der Logik*, Whitehead's *Universal Algebra*, Russell's *Principles of Mathematics*, Peano's *Formulario Mathematico*, and especially in Whitehead and Russell's monumental *Principia Mathematica*. I cite this literature because it tells us what, in a definitional sense, the science in which the normal mathematician is exclusively engages, is. If we wish to be told what that science humanly signifies, we must look elsewhere; to a mathematician like Plato, for example, or to a philosopher like Poincaré, but especially must we look to our own faculty for discerning those connective things—community of aim, interformal analogies, structural similitudes—that bind all the great forms of human activity and aspiration—Natural Science, Theology, Philosophy, Jurisprudence, Religion, Art, and Mathematics—into one grand enterprise of the human spirit.

In the Autumn of 1906 there was published in *Poet Lore* a short poem which, though it says nothing explicitly of mathematics, yet admits of an interpretation throwing much light upon the human significance of the science and indicating well, I think, the place that the normal mathematician occupies in the world of spiritual interests. The author of the poem is my excellent friend and teacher, Professor William Benjamin Smith, mathematician, philosopher, poet and theologian. I have not asked his permission to interpret the poem as I shall invite you to interpret it. What its original motive was I am not informed—it may have been the exceeding beauty of the ideas expressed in it or the harmonious mingling of their light with the

melody of their song. The title of the poem is 'The Merman and the Seraph. As you listen to the reading of it, I shall ask you to regard the Merman as representing the normal mathematician, and the Seraph as representing, let us say, the life of the emotions in their higher reaches and their finer susceptibilities.

THE MERMAN AND THE SERAPH.

I

Deep the sunless seas amid,
Far from Man, from Angel hid,
Where the soundless tides are rolled
Over Ocean's treasure-hold,
With dragon eye and heart of stone,
The ancient Merman mused alone.

II

And aye his arrowed Thought he wings
Straight at the inmost core of things—
As mirrored in his Magic glass
The lightning-footed Ages pass,—
And knows nor joy nor Earth's distress,
But broods on Everlastingness,
"Thoughts that love not, thoughts that hate not,
Thoughts that Age and Change await not,

All unfeeling,
All revealing,

Scorning height's and depth's concealing,
These be mine—and these alone!"—
Saith the Merman's heart of stone.

III

Flashed a radiance far and nigh
As from the vertex of the sky,—
Lo! a Maiden beauty-bright
And mantled with mysterious might
Of every power, below, above,
That weaves resistless spell of Love.

IV

Through the weltering waters cold
Shot the sheen of silken gold;
Quick the frozen Heart below
Kindled in the amber glow;
Trembling Heavenward Nekkan yearned
Rose to where the Glory burned.
"Deeper, bluer than the skies are,
Dreaming meres of morn thine eyes are
 All that brightens
 Smile or heightens
Charm is thine, all life enlightens,
Thou art all the soul's desire"—
Sang the Merman's Heart of fire.
"Woe thee, Nekkan! Ne'er was given
Thee to walk the ways of Heaven;
 Vain the vision,
 Fate's derision,
Thee that raps to realms elysian,
Fathomless profounds are thine"—
Quired the answering voice divine.

V

Came an echo from the West,
Pierced the deep celestial breast;
Summoned far, the Seraph fled,
Trailing splendors overhead;
Broad beneath her flying feet,
Laughed the silvered ocean-street.

VI

On the Merman's mortal sight
Instant fell the pall of Night;
Sunk to the sea's profoundest floor
He dreams the vanished Vision o'er,
Hears anew the starry chime,
Ponders aye Eternal Time.
"Thoughts that hope not, thoughts that fear not,
Thoughts that Man and Demon veer not
 Times unending
 Comprehending,
 Space and worlds of worlds transcending.
These are mine—but these alone!"—
Sighs the Merman's heart of stone.

I have said that the poem, if it received the interpretation that I have invited you to give it, throws much light on the human significance of mathematics and indicates well the place of the normal mathematician in the world of spiritual interests. No doubt the place of the merman and the place of the angel are not the same: no doubt the world of whatsoever in Thought is passionless, infinite and everlasting, and the world of whatsoever in Feeling is high and beauteous and good are distinct worlds, and they are sundered wide in the poem. But, though in the poem they are held widely apart, in the poet they are united. For the song is not the merman's song nor are its words the words of the seraph. It is the voice of the poet—a voice of Man. The merman's world and the world of the seraph are not the same, they are very distinct, in conception they are sundered; they may be sundered in life, but in life it need not be so. The merman is confined to the one world and the seraph to the other, but Man, a man unless he be a merman, may inhabit them both. For the angel's denial, the derision of fate, is not spoken of Man, it is spoken of the merman; and the merman's sign is not his own, it is a human sigh—so lonely seems the merman in the depths of his abode.

No, the world of interests of the human spirit is not the merman's world alone nor the seraph's alone. It is not so simple. It is rather a cluster of worlds, of worlds that differ among themselves as differ the lights by which they are characterized. As differ the lights. The human spirit is susceptible of a variety of lights and it lives at once in a corresponding variety of worlds. There is Perception's light, commonly identified with solar radiance or with the radiance of sound, for music, too, is, to the spirit, a kind of illumination: perceptual light, in which we behold the colors, forms, and harmonies of external nature: a beautiful revelation—a world in which any one might be willing to spend the remainder of his days if he were but permitted to live so long. And there is Imagination's light, disclosing a new world filled with wondrous things, things that may or may not resemble the things revealed in Perception's light but are never indetical with them: light that is not superficial nor constrained to paths that are straight but reveals the interiors of what it illuminates and phases that look away. Again, there is the light of Thought, of Reason, of Logic, the light of Analysis, far dimmer than Perception's light, dimmer, too, than that of Imagination, but far more penetrating and far more ubiquitous than either of them, disclosing things that curiously match the things that they disclose and countless things besides, namely, the world of ideas and the relations that bind them: a cosmic world, in the center whereof is the home of the merman. There remains to be named a fourth kind of light. I mean the light of Emotion, the radiance and glory of things that, save by gleams and intimations, are not revealed in Perception or in Imagination or in Thought: the light of the seraph's world, the world of the good, the true and the beautiful, of the spirit of art, of aspiration and of religion.

Such, in brief, is the cluster of worlds wherein dwell the spiritual inter-

ests of the human beings to whom it is our mission to teach mathematics. My thesis is that it is our privilege to show, in the way of our teaching it, that its human significance is not confined to one of the worlds but, like a subtle and ubiquitous ether, penetrates them all. Objectively viewed, conceptually taken, these worlds, unlike the spheres of the geometrician, do not intersect—a thing in one of them is not in another; but the things in one of them and the things in another may own a fine resemblance serving for mutual recall and illustration, effecting transfer of attention—transformation as the mathematicians call it—from world to world; for whilst these worlds of interest, objectively viewed, have naught in common, yet subjectively they are united, united as differing mansions of the house of the human spirit. A relation, for example, between three independent variables exists only in the grey light of thought, only in the world of the merman; the habitation of the geometric locus of the relation in the world of imagination; if a model of the locus be made or a drawing of it, this will be a thing in the world of perception; finally, the wondrous correlation of the three things, or the spiritual quality of them—the sensuous beauty of the model or the drawing, the unfailing validity of the given relation holding as it does throughout “the cycle of the eternal year,” the immobile presence of the locus or image poised there in eternal calm like a figure of justice—these may serve, in contemplating them, to evoke the radiance of the seraph’s world: and thus the circuit and interplay, ranging through the world of imagination and the world of thought from what is sensuous to what is supernal, is complete. It would not have seemed to Plato, as it may seem to us, a far cry from the prayer of a poet to the theorem of Pythagoras, for example, or to that of Archimedes respecting a sphere and its circumscribing cylinder. Yet I venture to say, that calm reflection upon the existence and the nature of such a theorem—cloistral contemplation, I mean, of the fact that it is really true, of its serene beauty, of its silent omnipresence throughout the infinite universe of space, of the absolute exactitude and invariance of its truth from everlasting to everlasting—will not fail to yield a sense of reverence and awe akin to the feeling that for example pervades this choral prayer by Sophocles:—

“Oh! that my lot may lead me in the path of holy innocence of word and deed, the path which august laws ordain, laws that in the highest empyrean had their birth, of which Heaven is the father alone, nor did the race of mortal men beget them, nor shall oblivion put them to sleep. The god is mighty in them and he groweth not old.”

But why should we think it strange that interests, though they seem to cluster about opposite poles, are yet united by a common mood? Of the great world of human interests, mathematics is indeed but a part; but is a central part, and, in a profound and precious sense, it is “the eternal type of the wondrous whole.” For poetry and painting, sculpture and music,—art in all its forms,—and philosophy, theology, religion, and science, too, however passionall their life and however tinged or deeply stained by local or

temporal circumstance, yet have this in common: they all of them aim at values which transcend the accidents and limitations of every time and place; and so it is that the passionlessness of the merman's thought, the infiniteness of the kind of being he contemplates, and the everlastingness of his achievements enter as essential qualities into the ideals that make the glory of the seraph's world. I do not forget, in saying this, that, of all theory, mathematical theory is the most abstract. I do not forget that mathematics therefore lends especial sharpness to the contrast in the Mephistophelian warning:

"Grey, my dear friend, is all theory,
Green the golden tree of life."

Yet I know that one who loves not the grey of a naked woodland has much to learn of the esthetic resources of our northern clime. A mathematical doctrine, taken in its purity, is indeed grey. Yet such a doctrine, a world-filling theory, woven of grey relationships finer than gossamer but stronger than cables of steel, leaves upon an interesting plane a tracery surpassing in fineness and beauty the exquisite artistry of frost-work upon a window pane. Architecture, it has been said, is frozen music. Be it so. Geometry is frozen architecture.

No, the belief that mathematics, because it is abstract, because it is static and cold and grey, is detached from life, is a mistaken belief. Mathematics, even in its purest and most abstract estate, is not detached from life. It is just the ideal handling of the problems of life, as sculpture may idealize a human figure or as poetry or painting may idealize a figure or a scene. Mathematics is precisely the ideal handling of the problems of life, and the central ideas of the science, the great concepts about which its stately doctrines have been built up, are precisely the chief ideas with which life must always deal and which, as it tumbles and rolls about them through time and space, give it its interests and problems, and its order and rationality. That such is the case a few indications will suffice to show. The mathematical concepts of constant and variable are represented familiarly in life by the notions of fixedness and change. The concept of equation or that of an equational system, imposing restriction upon variability, is matched in life by the concept of natural and spiritual law, giving order to what were else chaotic change and providing partial freedom in lieu of none at all. What is known in mathematics under the name of limit is everywhere present in life in the guise of some ideal, some excellence high-dwelling among the rocks, an "ever flying perfect" as Emerson calls it, unto which we may approximate nearer and nearer but which we can never quite attain, save in aspiration. The supreme concept of functionality finds its correlate in life in the all-pervasive sense of interdependence and mutual determination among the elements of the world. What is known in mathematics as transformation—that is, lawful transfer of attention, serving to match in orderly fashion the things of one system with those of another,—is conceived in life

as a process of transmutation by which, in the flux of the world, the content of the present has come out of the past and in its turn, in ceasing to be, gives birth to its successor, as the child is father to the man and as things in general become what they are not. The mathematical concept of invariance and that of infinitude, especially the imposing doctrines that explain their meanings and bear their names,—what are they but mathematicizations of that which has ever been the chief of life's hopes and dreams, of that which has ever been the object of its deepest passion and of its dominant enterprise, I mean the finding of worth that abides, the finding of permanence in the midst of change, and the discovery of the presence, in what has seemed to be a finite world, of being that is infinite? It is needless further to multiply examples of a correlation that is so abounding and complete as indeed to suggest a doubt whether it be juster to view mathematics as the abstract idealization of life than to regard life as the concrete realization of mathematics.

Finally, I wish to emphasize the fact that the great concepts out of which the so-called higher mathematical branches have grown—the concepts of variable and constant, of function, class and relation, of transformation, invariance, and group, of finite and infinite, of discreteness, limit, and continuity,—I wish, in closing, to emphasize the fact that these great ideas of the higher mathematics, besides penetrating life, as we have seen, in all its complexity and all its dimensions, are omnipresent, from the very beginning, in the *elements* of mathematics as well. The notion of group, for example, finds easy and beautiful illustration, not only among the simpler geometric motions and configurations, but even in the ensemble of the very integers with which we count. The like is true of the distinction of finite and infinite, and of the ideas of transformation, of invariant, and nearly all the rest. Why should the presentation of them have to await the uncertain advent of graduate years of study? For life already abounds, and the great ideas that give it its interests, order and rationality, that is to say, the focal concepts of the higher mathematics, are everywhere present in the elements of the science as glistening bassets of gold. It is our privilege, in teaching the elements, to avail ourselves of the higher conceptions that are present in them; it is our privilege to have and to give a lively sense of their presence, their human significance, their beauty and their light. I do not advocate the formal presentation, in secondary schools, of the higher conceptions, in the way of printed texts, for the printed text is apt to be arid and the letter killeth. What I wish to recommend is the presentation of them, as opportunity may serve, in Greek fashion, by means of dialectic, face to face, voice answering to voice, animated with the varying moods and motions and accents of life,—laughter, if you will, and the lightning of wit to cheer and speed the slower currents of sober thought. Of dialectic excellence, Plato at his best, as in *Phaedo* or the *Republic*, gives us the ideal model and eternal type. But Plato's ways are frequently circuitous, wearisome and long. They are ill suited to the manners of a direct and undeliberate age;

and we must find, each for himself, a shorter course. Somebody imbued with the spirit of the matter, possessed of ample knowledge and having, besides, the requisite skill and verve ought to write a book showing, in so far as the printed page can be made to show, how naturally and swiftly and with what a delightful sense of emancipation and power thought may pass by dialectic paths from the traditional elements of mathematics both to its larger concepts and to a vision of their bearings on the higher interests of life. I need not say that such a handling of ideas implies much more than a verbal knowledge of their definitions. It implies familiarity with the doctrines that unfold the meanings of the ideas defined. It is evident that, in respect of this matter, the scripture must read: Knowing the doctrine is essential to living the life.

THE SCHOOL AS A SOCIAL CENTER.

W. C. MARTINDALE, SUPERINTENDENT OF SCHOOLS, DETROIT, MICHIGAN.

The school as a social center means more than the use of certain buildings for club use several evenings a week. It not only means a reconstruction of the planning of school buildings but also a change in the attitude of the community toward the school.

The school is still looked upon as a place of repression by our boys and girls, a place of straight jacket discipline by many parents, who when they enter a school building, are wont to walk on tiptoes and look furtively around for some imaginary pedagogue to call them to account for not turning at the brass tacks or for some other reason to hold them responsible for some finicky offense known only to the profession.

Since the question of the larger use of the school has been under discussion much has been told of the constant use of the little red school house as a civic center. Some of this is imaginary, some real. To be sure, during the winter term there was the usual magic lantern show with its final "Good Night" slide, the yearly visit of a prestidigitator who pulled money out of unheard of places and could scramble eggs in Deacon Brown's high hat. There were also spelling contests, writing lessons, (ten for a dollar) and singing lessons, but with all this apparent use the gatherings were intermittent and unorganized. If the present movement is to continue there must be two elements present, the Board of Education with its organizers, the people ready and willing to take the initiative in the matter of arrangements. The second is a most vital point as the people must furnish the leaders to suggest, organize and assist in all the activities offered.

Your President has asked me to tell something of the work being done in Detroit. You will pardon me then for speaking of the work and problems of my own city.

In the wider use of the schools we have our evening schools in which foreigners learn to speak and write English. We had in the evening schools the past year 40 different nationalities. These foreigners learn something more than to speak and write English. They learn of the customs of the people, their manner of living, their attitude toward civic questions, they learn of the government of their adopted country, of the laws and their duties as a part of the community. They learn that the public school is the common democratic meeting place where their children can best prepare for their life work and later, by loyalty to the institutions of this country, repay their great debt for the opportunities opened to them.

In the evening continuation classes in the high schools are taught English, German, French, Spanish, commercial subjects, Mathematics, Physics, Chemistry, Mechanical Drawing, Machine Design, various branches of shop work, including pattern-making and work in the machine shop. The mission of the evening classes is not wholly for opportunities to study. The work in the shops, the department of household arts, the gymnasiums are a striking feature and of great social and civic value. These reinforced with entertainments and social gatherings lend a distinctive character to the work and provide an outlet for those necessary human yearnings for self-expression and companionship. All these and many other subjects are offered the four thousand students enrolled in the Central, Eastern and Western Evening High Schools. These schools afford the young men and young women who left school either because of financial reasons or because the school did not seem to offer what they most required, a means of continuing their education along lines related closely to their daily avocations. The results justify their maintenance. The argument used for these schools is that the young men and young women who find it necessary to leave school to contribute to their own support and the support of the family are entitled to the opportunities offered by the night high and continuation classes. That is, that the boy and the girl who must leave school early is entitled to the same consideration in the matter of instruction at *public expense* as the more fortunate boy or girl who is able to continue courses not only through the elementary and high school but also through the university by means of funds raised by *public taxation*. I shall consider this matter upon even broader grounds; that is, the industrial, commercial and civic needs of every community *require* that opportunity for better preparation for not only their daily avocation but for community life be furnished *to the end* that the young men and young women as future homemakers shall be given every opportunity for improvement that their ability, inclination and financial condition will allow.

Detroit public school playgrounds with an aggregate attendance of two hundred thousand the past summer are another feature in this modern revived view of the school plant as belonging to the public and not to the janitor.

The public baths started as part of the playground activities but were

later made a part of nine different public elementary schools and four high schools. The swimming pools in which the past summer forty thousand swimming lessons were given also have their place. With all these activities the public are only beginning to awaken to the fact that the schools are for their use not five and one-half hours a day but for the entire twenty-four hours.

Each day high school with its debating societies, Houses of Representatives, Orchestras, Glee Clubs, School papers, Literary and other societies, class entertainments, gymnasium classes and *team work* are much more than places for lesson getting. They are real social and civic centers, where all are a part of one great family, the school, that neutral ground where the rich are poor and the poor are the peers of their fellows. The Detroit high schools with their manifold activities are in part open for twelve months of the year. The buildings are open from a half after seven in the morning until ten o'clock at night, for many of the two hundred days the public schools are in regular session, and for the season from October first to the middle of March these schools are open the above long hours six days of the week.

Another phase of school work which illustrates the wider use of school buildings, has been brought about through granting the use of these buildings to various clubs, principally civic improvement clubs. In many sections of our city, civic improvement societies have been organized for the purpose of securing improvements especially needed in particular sections. The meetings of these clubs attended by large numbers of enthusiastic citizens, are held regularly in school buildings and the open discussions which take place have proved to be of the utmost benefit to the community.

There are other club meetings held in the schools such as that of the Northwestern Research Club which uses the school buildings for lectures upon some theme related to literature, science, or art, or, in fact, any subject of interest to the general membership of the club. We find some hesitancy on the part of the members in attending meetings held in school buildings, probably for the reasons previously given. We expect in time that meeting in a school building will be taken as a matter of fact and that the apathy shown by some of the people toward attending meetings in schools will finally disappear.

The privilege of giving lectures and entertainments in school buildings has been accorded to the Detroit Federation of Women's Clubs who, for the past twelve years, have labored earnestly and faithfully to give to the people of the localities where they are most needed, a series of entertainments and lectures particularly adapted to their needs. Last year nearly 150 of these evening affairs were held and, I believe, that before the session closes fully that number will have been held this season.

Evening stereopticon entertainments based on the regular school work are a feature peculiar to Detroit. Over 75% of our school buildings are constructed with large auditorium kindergartens and equipped with ster-

eopticons. We have a collection of 7,000 slides which circulate among the different schools illustrating all of the countries of the world, master-pieces of literature, famous paintings, and many other subjects which illustrate various phases of school work and bring life and action into it. The slides are used to illustrate the regular school lessons which are repeated in the evening under the direction of the principal and teacher and, with the addition of a few songs by the children, provide a most enjoyable and instructive program. These entertainments have had a two-fold purpose. They have served to bring the parents into closer touch with the schools and to acquaint them with present day methods of teaching, and they have been the means of providing not only entertainment but, in many cases, instruction to the patrons of the district. During the season of 1910-1911 92 evening entertainments of this kind were held, a notable feature is the large number of men present—an aggregate attendance of 20,172 being reported. The present season has been even more successful than the last and parents have expressed themselves in terms of strongest approbation of this work.

THE SOCIAL CENTER.

The first social center in a Detroit Public School was opened in October, 1910, at the Bishop School, which is located in the heart of the congested Jewish district of the city. This school was especially constructed with the idea of using it for this kind of work. It has a large auditorium on the third floor, capable of seating 1,200 people, a large kindergarten-auditorium on the first floor where 450 can be accommodated, a well-equipped gymnasium, a large swimming pool, shower baths for the boys, shower baths for the girls, carpenter shop and domestic science kitchen. The purpose of the social centers in Detroit has been from the start to provide a place where the young men and young women of the neighborhood and any boy or girl over fourteen years of age not enrolled in a public school, may come in the evening and find pleasant, *healthful* recreation and, if they so desire, educational training along special lines.

The Bishop Social Center was so successful that in the fall of 1911 it was decided to open two others, one at the Capron School which is also in a Jewish quarter in the downtown district and a third in the Greusel School located in the manufacturing section of the northeastern part of the city where little if any entertainment is obtainable. The centers are open five nights a week, two nights for the boys and two nights for the girls, while on Saturday evenings the boys and girls alternate in the use of the building.

In January in response to a request from the Girls' Protective League of Detroit a fourth center was opened for girls in the Newberry School in the western section of the city in order to care for the Polish factory girls of that locality. The social centers were opened exactly 100 nights beginning with the second of October and closing on the seventh of March. The aggregate attendance was over 12,000.

It has been said that any sort of activity tends to become play for the individual when skill in it is thoroughly acquired and reactions become subconscious so that it is easily done. If this be true, then many of the young people who come to the social centers in the evening who work in factories all day and perform the same tasks over and over, in time would come to regard their work as play. However, we know that this is not so, instead of becoming play it has become drudgery, because the tasks set for them are either too monotonous or the environment is so unpleasant that they get no pleasure in performing them. For that reason we have found it advisable to introduce more of the recreative activities this year than last.

In discussing the activities that may be carried on in any social center, I am always reminded of what a young man told one of our directors on opening night when the plans for the winter were being explained to the boys—"Oh, well," said the young man referred to, "as long as we can have this nice warm room all lighted up like this where we can come in and meet the other fellows, it's all I want."

The gymnasium for both the boys and girls offers the most popular form of recreation. The boys engage in boxing, wrestling, club swinging and basketball, while the girls delight in folk dancing which is for them perhaps the best form of gymnastic work, combining as it does graceful movements with light, healthful exercise. In addition they engage in gymnastic games and basketball, a number of teams being formed at each center. Alternate Saturday nights the boys and girls are taught social dancing by the physical training instructors. After the Saturday evening entertainments we have mixed dancing for the boys and girls of the social centers. The plan followed has been to allow the Girls' Department of a social center to invite the Boys' Department of that center to an entertainment, and after it was over the boys who were accompanied by their director were allowed to engage in dancing with the girls who were chaperoned by the director of the Girls' Department. The next time the party would be given by the Boys' Department. At two of the centers these have been popular, but at the other two there was no desire on the part of the young people to have these dancing parties. We have found, however, that we have been able to provide many other popular forms of entertainment. One has been the production of a playlet or of a simple vaudeville entertainment given by members of the club. At other times concerts, elocutionary entertainments, simple—exceedingly simple lectures and travel talks illustrated by the stereopticon have been given.

The educational side of the work is attractive to a large number of these young people. The boys are given the privilege of entering a carpentry class and many of them would work two full hours during an evening if it were permitted. However, we think this is an unwise plan for growing boys and young men who have been working all day, so that work is limited to one hour. Debating clubs which are organized at all the boys' centers provide a most successful way for reaching these boys along histor-

ical and literary lines. During the past winter a marked improvement in the manner of delivery and the subjects discussed has been noted. The favorite topic is "All the good the social center has done for us boys." A most popular activity for the girls is cooking. Classes have been organized at the four social centers and largely attended during the *entire* winter. The average cost per pupil has been not quite three cents per lesson. It really seems incredible when we think of the amount of good that can be done by the expenditure of so small a sum. At one of the social centers it was noted that the young women of the cooking classes brought their own utensils in which to cook the various dishes in order that they might take the food home and show Mother the result of their evening's work. It is unnecessary to enlarge upon the influence of such training on the home. Sewing machines were placed at all of the centers and the girls had the opportunity to learn garment making. While they all made their gymnasium suits, it was found to be not so popular an activity as cooking because it does not provide the necessary change from their regular day's work. Millinery classes were organized at one of the social centers and the young ladies of that class will be the cause of much envy among their friends when they display at Easter time the spring hats which they made during the winter.

Magazines are provided all of the social centers and several or more of the young people may always be seen gathered around the large reading table. The Public Library has established a branch station at each of these social centers and reports that most effective work has been done in reaching the home through the members of the social centers. An interesting story is told in this connection of a woman who attended one of the cooking classes and took home to her husband a German book which she obtained at the Library. Upon returning the book she said—"My man say I can come to the social center all the time if I bring home a good book like that."

For the working girl or boy who lives in a hall-bedroom or at home in cramped quarters, the social center gives splendid opportunities. When a girl living under such conditions comes home from work at night, she enters a cheerless and lonely room or a crowded home in which there may be no one congenial to her. Young people must have companionship. If they do not they become morbid and may develop evil tendencies. Here in the social centers the girls find other girls of their own age of a similar position in life. At once there spring up friendships born of this congeniality. The women in charge of the Girls' Departments are experienced in dealing with young people; they are always ready to lend a sympathetic ear and are the constant source of advice and counsel for the girls and young women who come to the social centers.

In a lesser degree the same conditions exist in the Boys' Department. They of course are in charge of men who understand boy nature and are ready to satisfy in a masculine way all of the demands which young men of that age make upon them.

It is surprising to note the development in the young people who have

attended the social centers for the two years they have been in existence. Many of the girls have grown from hoydenish girlhood into womanhood. Their voices have been softened, their manners are more quiet and ladylike, their tongues are more gentle. With the boys the same is true. They have become men, some of them, waxing stronger mentally and physically and although there is no attempt at religious instruction, by necessity they have grown spiritually.

As a direct result of the influence of the directors upon the young people who frequent the social centers, we can cite the case of a member of a boys' club who gave up a good position as messenger in a bank and returned to high school, when he saw the advantages of such a step as explained to him by the director, a young college man. The same is true of a girl who was persuaded by the director of the Girls' Department to enter high school and we can also cite a number of cases of young people who have been promoted in their work as the direct result of encouragement and assistance given them at the social center.

Perhaps the most important thing about a social center is the corps of teachers who are engaged in the work. Our experience has shown that in this work, as in all other school work, the value of trained teachers with kind hearts, firm hands and a store of experience in dealing with young people from which to draw cannot be overestimated.

Our social centers have had a steady growth and have come to be looked upon as a fixed element in the neighborhood. Let us return for a moment to the premises laid down at the beginning of this paper. If the present movement is to continue there must be two elements present, the Board of Education with its organizers, the people ready and willing to take the initiative in the matter of arrangements. The second is a most vital point as the people must furnish the leaders to suggest, organize and assist in all of the activities offered. By permitting those who participate in the activities of the social centers to propose and initiate methods of recreation, entertainment and amusement, the social center will evolve *from* and be a part of the community life.

In Zona Gale's clever book "Mothers to Men," one of the councilmen of Friendship Village in a plea for this new movement gives succinctly some reasons for the use of school houses for social center purposes.

The girls and boys of Friendship Village are pictured as running wild in the evening with no parental or other restraint. Some of these young folks had made the portals of the village school a meeting place.

The village school trustees, in solemn conclave, decided to go to the city and purchase iron gates to bar the school house entrance. During the absence of the trustees, some of the women of Friendship Village opened the school house had the seats taken out and prepared the school for an entertainment. When the trustees came back during the evening, the first thing they saw upon entering the village was the lighted school house on the crest of the hill. They went up to find out why the school house was

open and lighted and upon discovering their wives in charge, took them to task for using the school house for the entertainment which was going on. Finally one of the trustees who favored the opening of the school house spoke as follows:

"The town's nothin' but roots, is it? Roots, sendin' up green shoots to the top o' this hill to be trained up here into some kind of shape to meet life. What you doin' to 'em? Buildin' 'em a great, expensive schoolhouse that they use a few hours a day, part o' the year, an' the rest of the time it might as well be a hole in the ground for all the good it does anybody. An' here's the young folks, that you built it for chasin' the streets to let off the mere flesh-an'-blood energy the Lord has given to 'em. Put up your iron gates if you want to, but don't put 'em up till the evenin's over an' till there's been some sort o' doin's here like this to give 'em what's their right. Put up your iron gates, but shame on the schoolhouse that puts 'em up an' stops there! Open the buildin' in the name of public decency, but in the name of public decency, don't shut it up."

TEACHERS' PENSIONS.

MISS JULIA DORAN, GRAND RAPIDS.

In studying the question of pensions for teachers in the United States, I find they have been in existence in some form for a number of years. They had their beginning in a movement started by a small group of teachers to establish a fund for taking care of others who were no longer able to remain in the service. Funds were secured by assessing the members belonging to the association; this proved inadequate to meet the demand and the fund was increased by gifts, donations, bequests and money from entertainments of various sorts.

The problem was too great, however, to be solved in this way, and, from being a purely philanthropic movement on the part of teachers, boards of education began to see the advantage to the schools to be derived from the right kind of a pension system. There are several good reasons for the assertion that the schools will benefit by this movement.

First, teachers will be relieved from the worry and strain of trying to make their salaries cover present day living expenses, and still lay aside something for the inevitable rainy day. Salaries paid the great majority of teachers are admitted to be wholly inadequate to meet both demands.

Second, by improving the conditions surrounding the teachers in their work, the tendency will be, it is hoped, to bring better talent to the profession and to keep the best in the ranks. As it is now, only a small percentage of those who engage in the work of teaching remain more than twelve years;

by the time they have a thorough grasp of the business of teaching, a realization comes of the financial limitations, and many leave to engage in more lucrative occupations. In the industrial world this loss of experience would be considered detrimental to the best business interests.

A third reason for believing that the standard of teaching will be raised is, that it will place teachers in a position to give their entire time and attention to serving the schools. As a matter of fact, many are obliged to carry on other lines of work in order to eke out a fairly comfortable existence.

Then again, in an effort to save money for the future, teachers are depriving themselves of travel, study, comforts, books, rest, and many other things that are necessary to their professional life and growth. This reacts on the schools, which are being deprived of the advantages which should come from a growing alert teacher.

Finally, a retirement allowance would make it possible for those who are no longer able to keep up with the demands of their positions, but also unable financially to stop, to retire or be retired on a competence that would relieve them from the necessity of becoming objects of charity.

The question of pensions is one that has not received the attention of this country, which it has been given in all European countries. One reason for the tendency to thrust it aside seems to come from the prejudice that has been aroused against pensions of any kind by the abuses of the pension system for Civil War veterans. In most European countries this condition does not prevail and we find well established systems of pensions for teachers, for employes in industrial pursuits, and for the aged. England is the latest country to grant an old age pension, and the law recently passed for this purpose places an immense number of people on the government pay roll.

Pensions for teachers are given in nearly every country of Europe and under conditions which are extremely favorable to teachers. In Germany it is possible for a teacher to retire after ten years of service on a pension equal to 75% of his last year's salary; this pension is paid entirely by the state.

In Denmark, teachers are entitled to a pension after ten years of service, beginning with the thirtieth year of life; when seventy years old, they get two-thirds of the last year's salary as their allowance.

In France, after a teacher is fifty-five years old and has served twenty-five years, she is allowed to retire on a pension of 50% of the average salary of the last six years of service. This amount is increased by 2% for each additional year taught.

Norway, Sweden, Italy, Belgium, Netherlands and England have similar regulations, and in nearly every instance the allowance is paid entirely by the state.

In Spain, Portugal, Greece, and Russia, nothing is said about pensions for elementary teachers, but provision is made for those in the secondary schools.

Although this country lagged behind for many years, great advance has been made in the last ten years. During that time more than seventy important industrial corporations have established pensions for employes, and all the important railroad systems have made it possible for their employes to retire on a competence.

The following cities in the United States have well organized pension systems: New York, Buffalo, Baltimore, Boston, Rochester, Philadelphia, Chicago, Indianapolis, Minneapolis, St. Paul, San Francisco, Milwaukee, Detroit and many other places.

For the various pension laws in vogue in these places legislative regulations have been necessary, and the conditions vary with the localities. In all city plans the teachers are assessed, the assessment being compulsory in some cases and voluntary in others. In no case can a teacher receive the benefit unless she contributes to the fund. The voluntary contribution plan is not considered successful for two reasons: First of all, it is subject to all the vicissitudes of fraternal insurance under amateur management. Secondly, it does not reach the class who most need attention, that is, those who are not inclined to be thrifty and look out for the future; as they do not contribute, they cannot receive the benefit.

The assessments are either a uniform rate or a percentage of the salary. Minneapolis asks \$10.00 for the first five years; \$20.00 for the second five, and \$25.00 for the remainder of years taught. In Columbus the rate is \$2.00 a month. In Chicago, the assessment is \$5.00 for the first five years; \$10.00 for the next ten years; \$15.00 for the next fifteen years, and \$30.00 for each year thereafter. The great majority of cities, however, make an assessment of 1 per cent of the salary, in some cases they also have a maximum limit to the amount paid by those assessed. Beside the assessment levied on salaries, the funds are increased by contributions made from public funds by boards of education. These usually come from fines, salaries lost by teachers when absent, interest on certain funds in the budget, a certain per cent of the taxes raised for school purposes, and in some instances, a per cent of the excise tax. Philadelphia contributes \$50,000 annually; New York \$300,000 annually.

As to the time or retiring, there is usually time for voluntary retirement and also time when a board of education may retire a teacher. Two cities only have a time at which a teacher must retire.

The amount of retirement allowance is either uniform salary for all, or it is a percentage of the salary received during the last few years of active service with a maximum limit. New York has the highest retirement allowance which is one-half the salary, with a maximum limit of \$1,500 for principals and \$2,000 for supervisors. In Boston and St. Louis, the allowance is \$180 annually; this is the least pension paid in any city. The majority of cities pay one-half the annual sum with a maximum limit.

A later development of the pension system is the state pension. In Maryland, Virginia, New Jersey, Rhode Island and Wisconsin there are

state pensions. In Maryland and Rhode Island pensions are paid exclusively from state funds. In these states it is possible for a teacher to draw local pension and also a state pension. Several states, among them are California, Colorado, Ohio and Indiana, allow cities and towns to establish pensions and pay them from public funds, if approved at popular election. The Rhode Island law is simple in construction and very broad in its attitude towards teachers.

In brief it provides that any teacher of either sex who has reached the age of sixty years, and who for thirty-five years has been engaged as a teacher in the public schools, or such other schools within the state as are supported wholly or in part by state appropriations, and are entirely managed and controlled by the state, twenty-five years of which, including the fifteen years immediately preceding retirement, shall have been in the state of Rhode Island, may, at the expiration of a school year be retired by his employer, or voluntarily retire from active service, and, on his formal application, shall receive from the state for the remainder of his life an annual pension equal to one-half of his actual contractual salary during the last five years before retiring, but in no case shall the annual pension be more than \$500. It also provides that the state shall appropriate the sum of \$10,000 or as much as shall be necessary to carry this act into effect.

This law went into effect January, 1908. From a report it is found that in 1911, it took \$20,000 to carry the pensions for Rhode Island.

Detroit is the only city in Michigan having a pension for teachers. This system has been in existence a number of years, and is often quoted as being one of the most successful plans in operation. The fund is provided from an assessment of 1 per cent levied on the salaries of all teachers, and by contributions made every year by the board of education. At the present time the retirement salary allowed is \$330.00 a year.

Last year a bill was introduced in the legislature to provide a retirement salary for all teachers in the public schools of Michigan. After studying the various bills, it was decided that the Rhode Island bill met the views of the committee more nearly than any other bill. The compromises were on the age limit which was struck out and on the number of years of service, which was changed from thirty-five to thirty.

The main features of the proposed bill were as follows:

1st.—Thirty years of service.

2nd.—Twenty years in Michigan.

3rd.—An annual fee paid by all teachers, based on years of experience. \$1.00 for the first ten years; \$2.00 for the second ten years, and \$3.00 for each year thereafter.

4th.—A retirement allowance of half the salary, with a maximum limit of \$500.00.

As there are about 18,000 teachers in the state who would be eligible, this would give the fund at least \$25,000 annually from teachers' assessments. The remainder of the money necessary would be provided by the

state. The bill was called a Retirement Salary Bill, and provided that a teacher might be called upon after she had retired, to teach twenty days during the year, on condition that she was physically able to give that service. This bill, after being badly mutilated passed the senate and was first on the order of business before the house when the legislature adjourned. This leaves Michigan with only one city in the state that cares for its teachers when for various reasons they desire to retire from service.

NEW REQUIREMENTS FOR ADMISSION TO THE ENGINEERING DEPARTMENT OF THE UNIVERSITY OF MICHIGAN ADOPTED MARCH 6, 1912.

ASSISTANT DEAN W. H. BUTTS, UNIVERSITY OF MICHIGAN.

ADMISSION OF CANDIDATES FOR A DEGREE.

Candidates for admission as regular undergraduate students must be at least sixteen years of age and must pass examinations in fifteen units as indicated below or must be recommended by an accredited preparatory school as graduates who have satisfactorily completed these requirements for admission. Students who otherwise meet the above requirements but are deficient in not more than one and one-half units, may be admitted conditionally, but must make up their deficiencies within one year. These requirements are stated in units, a unit meaning the equivalent of five recitations a week for one year in one branch of study. Two hours of laboratory, drawing or shop work are counted as equivalent to one of recitation.

PRESCRIBED UNITS FOR ADMISSION.

English	3 units.	
Mathematics	3 units.	
Physics	1 unit.	
History	1 unit.	
Latin	} 2 units of one language.	
German		
French		
Spanish		
Chemistry	1	} 1½ or 2 units.
Trigonometry	½	
German	1 or 2	
French	1 or 2	
Latin	1 or 2	
Manual training	1	
Total prescribed, 11½ or 12 units.		

The Manual Training accepted for this unit must be of such a character as to excuse the student from Shop 1 (Wood Shop and Forge Shop)

in the University. Students who do not present Trigonometry and Chemistry for entrance will take a two hour course in Trigonometry and two four hour courses in Chemistry during their first year of residence.

The remaining 3 or $3\frac{1}{2}$ units may be presented in any subjects for which credit toward graduation is given by the accredited school and which are taught in a manner approved by the University; but no more than three of the fifteen units required for admission will be accepted in vocational subjects and no more than two units in any one of them.

Graduates of schools outside of Michigan must send courses of study or letters from instructors describing the work done when credit is asked in the vocational subjects,—Manual Training, Drawing, Agriculture and Commercial Branches.

Chemistry and Plane Trigonometry are placed in an alternative group with German, French, Latin and Manual Training, so that all high schools with three or more teachers may offer full preparation for the Engineering Department, even if they cannot teach Chemistry and Trigonometry. It is highly desirable, however, that students present these subjects for admission so as to avoid irregular classification which sometimes results in conflicts and loss of credit.

CLASSICAL CONFERENCE

LATIN FROM THE VIEW POINT OF THE TYPICAL, SECOND YEAR PUPIL.

MISS EVA PAINE CARNES, SOUTH HAVEN.

The Schoolboy's Dream in a recent Classical Journal is not merely amusing. It will bear reading more than once. It is not the first funny story which has created more serious thought than many a sermon.

The boy falls asleep over his Caesar lesson; it is so hard and dull. Caesar's ghost appears and communes with him in Latin and English. The parody is rich. The final appeal of Caesar is worth quoting:—"All failure is divided into three parts, one of which the Gay-guy possesses, the second the I'll-quit-anians, the third, those who in their own language are called the Can'ts, but in ours the Dulls. Of all these the Dulls are the bravest because they are the farthest away from the hope and inspiration of success. To which tribe, young man, do you belong? Or do you not scorn to be counted among those barbarians and prefer to claim citizenship in the great city of victory whose warriors have subdued all the world by living up to

the martial watchword—"Veni-Vidi-Vici?" "Answer me!" This school-boy awakes with an inspiration. Is his discouragement all his fault? May we too not receive a suggestion from his dream?

For this is not a careless snapshot of a typical second year high school pupil. The original sat for the artist, who has given us a careful time-exposure, correct as to time, distance, and focus. The picture is not exaggerated. Experienced teachers can recognize the likeness, we must admit it. I come with this proposition, that Latin must be considered in our high schools from the standpoint of this boy and his twin sister. We must see his viewpoint, study it and try to take it. Too often our hearts go out alone to that ideal second-year pupil whose home atmosphere is influenced by his father's degree, perchance a German Ph.D., to the boy whose own scholarly tastes lead him gladly into the little by-paths of minute research which are so often suggested by college-bred teachers and college-made texts, those tiny paths, which confuse the typical second-year pupil in such a maize that he does not see the main road and so naturally hates the confusion.

Our own generous thought, on the other hand often goes out to the utterly dull. In a typical class of twenty second-year pupils he gets far more than one-twentieth of our time. We labor after school hours with him. Is this wise? It was intended that there be hewers of wood and drawers of water. Understand we make no social cleavage here. The man who should work with his hands only, may be a banker's son. We merely sadden our hearts by not admitting this proposition. It is absolutely a waste of time to try to teach certain pupils Latin. It is our duty to turn the steps of such pupils into other paths. I contend that the average pupil who sits on the fence between the fields of our labor, occupied respectively by yon dullard and the son of our Ph.D. may even fall into the lot of the former, because of our over-care of the hopeless. Surely this is an instance of "Love's Labor Lost."

We know that our school journals are not full of apologies for, nor defences of history and mathematics. The space allotted to them can be used better. We only apologize when we are on the defensive. We are in this position when we see our own weakness but refuse to openly acknowledge the fact. A correct diagnosis is one of the first necessities for a nice treatment and cure. We must take the hint of the suggestion found in the very frequent articles in school journals bearing such titles as "The Value of Classical Studies." There is something weak in our position and we know it. We fail to take the viewpoint of the average pupil.

To be sure, this is the day when the novelty of Domestic Science and Manual Training still gives these studies undue attraction. When their presence in our curricula is as well established as in Germany, then in our land as well as in the Father-land of Ariovistus, the hand will serve the brain, not hinder it with its awkwardness, but a substitution of handwork for brain-work will never occur to the intelligent. Such a substitution, however, is uppermost in the minds of many parents today. This is fact,

not fancy, and deserves consideration. There is generally a visible result in the Manual Training department; there is frequently none in Latin. Latin teachers are largely responsible for this, for they often either have a mistaken point of view, or, worse than that, some have no idea of where they do stand.

Let us consider what we mean by a mistaken point of view. Through association meetings and journals, the claims of certain college and university professors of Latin are communicated to us, who knew the mind of the second-year pupil. There we are told that the primary aim of the Latin teacher should be to give his pupil the ability to read for himself the master-pieces of Roman literature. Such people regard a translation as a "pressed flower," or as someone has said, "a canned strawberry," and, as such they loftily scorn the translation, forgetting their own youthful debt to it. Those college professors have frequently had no experience as high school teachers and little realize our situation. They tell us discipline is a by-product, that the main thing is a command of the language for reading purposes, by which command we may learn the spirit of the ancients. In the first place, too little Latin can be handled at a time in any high school class, second or fourth year, to gain any such power; especially is this true of a Caesar class. In a typical small high school, the Latin I class numbers sixty; Latin II, thirty; Latin III, fifteen; Latin IV, ten or twelve, and probably not more than three of the members of the fourth class have any intention of pursuing college Latin. Of course, in Latin I, many of the hopeless have perished by the law of the survival of the fittest, but for whom should we plan, and whom should we consider the thirty or the ten? Subtract our ten fourth-year pupils from the thirty. In all probability our twenty remaining boys and girls are our town's future men and women of influence. Consequently, we claim that high-school Latin, indeed all high-school studies should not have as their primary purposes either a preparation for college or results obtainable only by the college student. That portion is false on the principle that our duty calls our chief attention to the good of the average pupil. Teachers whose purpose is to prepare for college work succeed with a precious minority. Their faults lean to virtue's side. While teachers who have no purpose communicate their aimlessness to their pupils. Discouragement prevails on both sides of the teacher's desk. Enthusiasm is a total stranger. The pupils hate Latin, the parents sympathize with them.

If each of us will ask himself, "What work, what study do I dislike?" the truthful answer will be, the one in which I am weakest. The reaction of poor work is dislike. Reverse this statement, "Nothing so succeeds as success." With modesty and truth we may say that we all delight in our own strength. Let our pupils succeed and note their joy awakens. We have all seen sour faces in our classes, yet, rarely do they belong to successful pupils. The absolute necessity of the joy of attainment must be recognized. We confidently believe that Latin may be studied by the average boy

or girl with the success that delights pupil and parent and that creates a lasting appetite for the deeper meaning in words and in the facts of history and literature. We face the necessity that our work in Latin, be enjoyed, in no lazy sense of the word. A purpose in the teachers mind, clearly defined and frankly stated to his pupils will produce the joy of achievement. To be sure, that pupils hate Latin from sheer laziness is patent to us all, but let us openly face that proposition. In this day of easy electives we owe it to our pupils to warn them of the flabby mental muscle that comes from handling light weights. Let every pupil be rigorously taught that laziness is a poison, that to have none of it, to spew it out, requires resolution and decision; that that decision is the matter of a moment, but there remains joy, the joy of self-respect.

Then, being rid of that incubus many of us are convinced that the great value of Latin is a disciplinary one. Communicate to your pupil the longing for a disciplined mind. Let him learn from history and biography its value, let him realize what has been wisely said, that the problem of elementary Latin is not one of the intellect but of the will. All pupils desire volitional power and will more gladly approach this study seeing the coveted reward. Intelligent pupils and parents approve of algebra, a bright pupil longs for keen mental tools, he appreciates that the race is to the strong. Urge him to approach his Latin as he would his algebra. Latin has been called "the best instrument for mental discipline available in secondary education." We believe that the end and aim of education is formation, not information, so let the pupil be taught the life-long need of sound judgment and exact memory and let him see his opportunity in the Latin class. I wish here to quote with slight adaptation from articles in the *Classical Journal* and *School Review*:—"Information, knowledge, culture, originality, eloquence, genius, may exist without a classical training, the critical sense and sound feeling for the relativity of meaning rarely, if ever." "Science, literature, history do not so contribute to personal culture as translation may." "Here is our chance for choice, discrimination in the casting about for the exact term, accuracy and refinement, that make for character." "Latin employs all the logical faculties from the beginning. Observation, judgment, reason." In a fine article by Professor Bennett entitled "An Ancient School Master's Message to Present Day Teachers," he quotes Quintillian: "Only a lover of accuracy will beget a love of accuracy in his pupils, and without this there can be no scholarship, no really excellent instruction." We appreciate the modern spirit of these words. We realize that our own judgment is too often unreliable and feel that a general distrust in each other's opinions and alas, in our own is due to the sad neglect of an all-important faculty, the memory. Professor Bennett quotes Quintillian again, "All knowledge depends on memory and we shall be taught to no purpose, if what we learn escapes us." The parrot-like memory work done in the school of our own childhood naturally disgusts us; but has not that repug-

nance for the memorizing by rote of the answers to the questions under the map led to too great a reaction? We have rightly attempted to make our pupils understand first, but have acted as though we thought they could reason without data. Our high school with its poor memory work sometimes does not produce the independent scholarship of the red school house in the pasture, whose boys and girls knew the tables and rules of arithmetic and ciphered alone through the text. All high school teachers regret the lack of self-reliance on the part of the pupils. Many a Latin teacher has looked out of the school house window and beheld her star pupil generously reading his Latin lesson to his fellow pupils. We all know that for less than fifty cents we may buy a pony from certain well-known Chicago firms. We also appreciate that the pupil may misuse vocabulary and notes. Latin to many an honest boy is a discouraging exercise and a generally unlucky attempt to work out a word puzzle. To the good and poor alike, failure is due to lack of independence.

The infinite variety of topics open to the Latin teacher is his opportunity and his great peril. The pupil reaps discouragement only when he feels he never has finished his task. Let us, therefore, make very definite assignments, emphasizing essentials even avoiding much delightful correlated work, when we see bewilderment the result. We can hold to a few requirements rigidly and offer supplementary work as talks upon which we frankly state that we require no test nor examination. Our pupils may take heart then when attempting the possible. Next face the fact that the average assigned lesson of ten or twenty lines in advance is not rightly studied. Why not follow the German method by putting the stress of the work on sight-reading, class-room work, in which we constantly test the pupils in their ability to think independently? We freely supply obscure and unusual vocabulary and idioms and hold the pupils to what has received past emphasis. We compel them to analyze words and sentences in our presence, to gain right mental habits. We teach them the value of rapid analysis. Our pupils too often dawdle and tell pitiful tales of midnight oil. Show the uselessness of this by making evident the power and delight in concentration of mind. Let this be a process of word-study. Let our aim be to teach the primary meaning of the Latin word and to see how many values a few useful words have. Let us teach our pupils that a word like a man, is known by the society it keeps; consequently, that one, in translating every sentence, must take more than one approach to his work. In sight-reading the teacher may first read the Latin sentence aloud, requiring that forms be recognized. The pupil who considers "principum" an accusative may be given a special written lesson on that word for that day. The pupils may then be required to concentrate their minds on the verb, as the key to the sentence, next to name the nominative already recognized and to do it promptly, finally to reread the Latin sentence giving its gist in English—by which method as in the German class, one tries to gradually gain the power

to read and grasp a Latin sentence as a unit. Of course, an exact translation follows.

Little by little the pupil grows able to translate the easy passages upon which one does not delay. Tomorrow's lesson consists in a review of yesterdays sight work and the use of note and vocabulary in review, not advance study, to make certain or polish that upon which one has already thought. Besides the general memory training in sight work, I am trying a method suggested by Miss Clara Jeanette Allison in an article in the Classical Journal, and I feel that it deserves the highest commendation. I select from the sight passages the most valuable forms and words, those found, for xample, in G. W. Brown's list. Of these a list is copied and memorized and recited by each pupil. In that last point lies the chief value. Supposedly we have all required our pupils to memorize vocabularies. Have they done so? Mr. Lazyboy has successfully trusted to his good luck in escaping the call for vocabulary. Now in this method each pupil responds to a sure call. This is done out of the class. It is not always easy for the teacher, but is less nerve-trying than the discouragement which comes from dealing with the pupils ignorant even of the value of "cedo." I hear these pupils between bells or for a few minutes before or after school. I allow them to recite to each other, a labor-saving device of mutual helpfulness. I am completely surprised at the eagerness of the pupils in my present Caesar class to co-operate in this work. I ask each day for a report and there is no failure as no pupils who has done his vocabulary work, will be allowed to remain in class.

I constantly meet seventeen or eighteen year old pupils who tell me that they cannot remember history, literature, etc. I claim that these pupils from this method in the Latin class may be rewarded by an added strength of memory, which can be carried into the general pursuits of life. All men and women desire to keep in mind the facts of history and literature, and of their oral calling. When Latin has left many a man this training in exact memory may remain, a priceless treasure, in his own opinion.

In connection with this method, stress is laid on etymology. The English family of the ancient Latin sire must be recognized. In review lists of the English words are given and the pupils are required to state the Latin word found therein, and its meaning. The history of words, as well, is often suggested. Pupils are sent to the dictionary, and a strenuous effort is made to form the derivative habit, which alone can give second year Latin visible results that advanced college work, without that habit, does not always show. A student of words never loses his Latin. To handle words exactly enables one to express himself with a confidence and precision that make for power. The Latin pupil, thus trained, developes a "Sprachgefühl" which aids him, in what has been called "the all-import-

ant art of interpreting the expressed thought of others" and rendering clearly the thought he himself would give.

In connection with the work of a practical disciplinary nature in second-year Latin, we believe there is but little lasting value in studying Caesar's military tactics in detail, but that a great and permanent interest in his personality may be awakened. Pupils may be told that throughout the year they are to collect data for a Caesar essay. Such an essay taken from a study of *De Bello Gallico* will give some pupils a life long interest in certain chapters of history. In connection with this essay-preparation my pupils have read with enthusiasm Professor Davis' story, "A Friend of Caesar." In the same manner our Anglo-Saxon pupil is interested to gain and collect at first hand some information about the early Germans, which ought to be correlated with his historical study of the period of the wanderings of the German Tribes.

In conclusion we claim, therefore, that the lack of a practical purpose understood by pupil and teacher, indefiniteness of assignment, lack of independence in study, due largely to shabby memory work, make Latin often a failure and in that case a kill-joy to the victim, whereas it may be a source of joy. An average boy or girl can comprehend the need of trained memory and judgment. An ability to think independently makes the boy, father to the self-respecting man. Never fear that when a boy knows that the second year Latin class has helped him to that self-reliance, he will cease to call that class dull or unprofitable.

Only that study can defend itself on our high school program which creates some lasting appetite. The love for etymology may and often does last a lifetime, a never failing source of culture and an aid to the exact use of the language. Finally, our typical second-year pupil so trained carries home and into life something tangible as a result of his work; and behold, success in practical effort has often made him eager for a larger horizon, and though his education was not governed by the thought of college work, we claim the college often finds in this youth a far better student than the boy whose teacher had a hazy desire that his pupils, read, and interpret the thought of the ancients as underlying our modern civilization.

A METHOD IN SECOND YEAR LATIN.

MISS HELEN B. MUIR, STATE NORMAL COLLEGE.

I. Course in Second Year Latin, the most difficult of the entire high school Latin Course of four years.

1. Cause lies in the many passages of indirect discourse.
2. If class is large, make two divisions on basis of ability, and work accordingly.

II. Quality of work versus quantity.

1. Main purpose of this study to learn to read, i. e., to get the thought from the printed page.
2. Teach English sentence structure through the study and translation of the Latin sentence.

3. Points emphasized:—

- (1) The reflexive use of personal and possessive pronouns.
- (2) The relative pronoun.
- (3) Co-ordinate constructions.
- (4) Words that make connection in thought between sentences.
- (5) Difference between the group-object and the infinitive clause of indirect discourse.
- (6) Translation of the participle when in an oblique case.
- (7) Read the Latin text with English inflection to show the sentence structure.
- (8) Recitation upon definitely assigned grammar lessons. Try to find illustrative examples from the text.
- (9) Constant application of some of the simplest principles of etymology in gaining a vocabulary.
- (10) Proper use of the English auxiliary verbs in the translation of the subjunctive mood.
- (11) Insistence upon a grammatically correct English translation.

It has been my experience that the work in the second year of the course in Latin is the most difficult of the entire high school Latin course of four years. This fact, too, invariably comes to me as a disappointment after the seemingly intelligent preparation by the class of the first year's work. But there is an explanation for it.

During the first year much of that which is accomplished has been along the lines of inflection and vocabulary—two of the prime essentials to any further study—and, in learning the rules of syntax and their applica-

tion, some *one* or *two* principles have been emphasized in each lesson. And thus the pupils have had a key to the translation, for they have known that they will find in the reading exercise repeated illustrations of the few syntactical principles to be learned with this particular assignment.

True, there is in the first year considerable reading matter to be translated in which *all* previously learned principles of syntax find their application, but this is comparatively easy Latin. And the step to a page of Caesar's Commentaries with the long passages of indirect discourse is more difficult than those who have long pursued the study of the language realize. The time element is an important factor in the acquisition of any language.

If the class is a large one, best results can be secured by a division of the class on the basis of ability to do more or less work. But in the case of my own class the number is small, and perhaps no one is planning to pursue the subject in school beyond the second year. This condition presents a problem. For if the study of any foreign language is discontinued after so short a period, the little knowledge gained soon fades from the mind, and it is a question whether the time spent upon it could not have been employed to better advantage on something else.

Under the existing circumstances I have tried so to teach elementary Latin that if there are those who wish to pursue the subject further, they will have laid a substantial foundation for further intelligent study, and that those who never read any Latin beyond the two years' course shall not have cause to regret the time spent upon it. My aim, therefore, is not so much *quantity* of work as *quality* of work, not to get *a* thought from the printed page but *the* thought.

I have eliminated some things that I once emphasized, and placed more emphasis upon others. Once I required long passages of indirect discourse changed into the direct form. Now I place the emphasis upon the correct use of the tenses, tense-phrases, and auxiliary verbs in the English translation. Once I spent weary hours in vain effort to awaken the latent ability of each member of the class to write the various typical forms of conditional sentences and then by making each the direct object (1) of *dicit* and (2) of *dixit* change these into indirect discourse, and finally give the correct English translation. Now we determine from the context what the relative time of the action expressed by the verb in the conditional clause is and translate accordingly. Formerly I assumed that pupils who came into the Latin class had had a course in English grammar and were now about to study Latin grammar. Now we study sentence structure and compare the English and the Latin idioms, noting the likenesses and differences of construction. We thus study the English sentence through the study of the Latin. Some illustrations will make my meaning clear.

In B. G. II. 8, by way of description of the advantageous position of his camp, Caesar says, "quod is collis, ubi castra posita erant, panuum ex planitie editus, tantum adversus in latitudinem patebat quantum loci acies

instructa occupare poterat," for the hill....extended in front of the camp over as much ground in width as the line of battle when formed could occupy. Here the difficulty of construction lies in the words *tantum*....*quantum*. These are both words of quantity and correlatives of each other in the relation of antecedent demonstrative and relative pronouns. *Tantum* is in the accusative case expressing extent of space and adverbial in its relation, modifying the verb *patebat*. *Quantum* is in the accusative, the direct object of the complementary infinitive *occupare*. *Loci* is the partitive genitive limiting the relative pronoun *quantum*, but in the English order it would be placed after *tantum*. This analysis makes the Latin construction plain.

Next the class is asked to give the construction of the words "over as much ground as" in the English sentence. If no one can do so, the question is left with them and they are asked to consult the English grammar for a similar construction. In this way they discover that *tantum* is here translated by the two words, *as much*, and that the second *as*, which translates the word *quantum*, is regarded as a relative pronoun used as the direct object in its own clause. I have the feeling that the word *ground* in the English expression is an original genitive case, but I have no authority for construing it thus, and so we call it the object of the preposition *over* in the adverbial phrase, *over as much ground*.

In the fourteenth chapter of the Life of Caesar, as given in our textbook, this sentence occurs: "Quo rarior in regibus et principibus viris moderatio, hoc claudenda magis est," the rarer self-control is in kings and prominent men, the more praise-worthy it is. This is a difficult sentence notwithstanding there is a note stating that *quo*....*hoc* are the ablative of degree of difference with the comparatives. I called upon one of the girls to translate the chapter. She replied, "I don't understand the first sentence at all." Now this same girl felt that she understood the sentence, *Ego sum capite altior quam tu*, I am a head taller than you. Of course she had lost the thread of thought, for the chapter goes on to show that Caesar displayed *moderatio* in a high degree in his treatment of his political enemies after the civil war. The class was asked how Caesar compared, in this quality of *moderatio*, with Marius and Sulla. They thought Caesar had it in a much higher degree than those two men. "Then what is the difficulty in the analysis of the sentence?" "It is in the words *quo*....*hoc*."

Now the difficulty to the pupil lies not in this particular ablative construction, but in the relation of the two words *quo*....*hoc* to each other. They are correlatives of each other and the relation is that of demonstrative antecedent and corresponding relative pronoun. The class was given the English sentence, "The deeper the well, the colder the water," and asked to consult the English dictionary for the meaning and use of the words *the*....*the*. Here they found that the word *the* in a similarly constructed sentence is used in an adverbial sense, being the instrumental case of the

Old English demonstrative for *that*, when the word had not only a demonstrative use but was assuming a relative use as well. Hence we have in the English *the...the* used with the comparative an almost exact equivalent of the Latin *quo...eo* (*hoc*), with the comparative.

In the grammar and composition lesson for the next day I gave the sentence, "The more I see you, the better I like you," to be translated into Latin. The majority translated it correctly. And this same girl, a few days later when the first chapter of the Life of Hannibal had been assigned the class as a test of their ability to make a correct translation without any help from the teacher, translated the following sentence correctly, stated the relation between the words *tanto...quanto*, and gave their construction: "Non est infitandum Hannibalem tanto praestitisse ceteros imperatores prudentia quanto populus Romanus antecedit fortitudine cunctas nationes," it must be admitted that Hannibal as far excelled other generals in strategy as the Roman people surpassed other nations in prowess. And in this sentence there are no adjectives or adverbs in the comparative degree, but the comparative idea is only implied in the verbs *praestitisse* and *antecedit*.

Certain parts of speech need to be emphasized much more than others. Among pronouns I have found that the reflexive and the relative are the ones that present most difficulty to the beginner. This difficulty is greatly lessened by insistence upon definitions. A *reflexive* pronoun is a pronoun that is regularly used in the predicate of a sentence and has its antecedent in the subject. This definition covers both the direct and the indirect use of the reflexive, as a subordinate clause in which the pronoun is indirect reflexive is a part of the predicate. It also includes the reflexive personal and the reflexive possessive, and does not mislead the pupil into the error of thinking that *sui* and *suus* are the only pronouns that are used reflexively. A sentence like the following presents no serious difficulty. "Sua Caesarem in Hispaniam comitata fortuna est," Caesar's usual good fortune accompanied him into Spain. For while the grammatical subject of the sentence is *Sua fortuna*, the logical subject—the subject of thought—is *Caesarem*.

The usual definition of a relative pronoun does not mean much to the pupil, for the third person of the personal and possessive pronouns and the demonstrative pronouns "relate back" to an antecedent substantive. A definition that is more easily understood is this. A *relative* pronoun is a *conjunctive* pronoun. And what does it join or connect? It connects its own clause with its antecedent, and thus the relative pronoun clause is always adjective in its use. With this thought clearly understood the rule for the agreement and use of a relative is readily seen to be true.

By some strange perversity of judgment beginners seldom fail to overlook the small conjunctive words. I think perhaps the frequent omission of the coordinate conjunction *et* in Latin, where in English it would be expressed, gives them the feeling that the word is of slight importance in

the structure of the sentence, whereas the coordinate conjunction is of prime importance in getting the meaning of the sentence. Therefore in a long compound-complex sentence I ask the pupil to name the verbs, in the order of their occurrence, in the independent coordinate clauses or in the dependent coordinate clauses. For example, there may be two or more coordinate temporal clauses introduced by the subordinate conjunction *cum*. Then the questions are, How far does *cum* have force in the sentence? Name the verbs in order in the coordinate temporal clauses. By thus emphasizing coordinate constructions all subordinate conjunctive words must of necessity be carefully noted. In this same connection come those words that make the connection in thought between sentences, such as demonstrative adverbs, pronouns, adjectives, etc.

Attention is given to the difference between the group-object governed by a verb of wishing, ordering, and forbidding, and the indirect statement governed by verbs of saying and mental action. In the former case the accusative and infinitive are really two objects, the infinitive being a verbal noun without distinction of tense; while in the latter case the infinitive takes the place of a finite mood of the direct statement, and so has distinction of tense.

The participle when it agrees with a substantive, expressed or implied, in an oblique case presents difficulties in translation to the beginner. Even when he sees the agreement of the participle, it requires much patient study to discover the thought relation implied in the participle and then to give expression to this in idiomatic English. And this fact gives the Latin teacher the opportunity to teach not Latin sentence structure only, but, what is of greater benefit to the majority of the class, English sentence structure. For the participle is used so much more frequently in the Latin than in the English, and so should not always be translated by the participial construction.

Again, in reading the Latin, we do not trouble ourselves about how the old Romans read, but we read with the English inflection, trying to group related words and other elements so as to bring out the sentence structure. The old Romans, no doubt, would object to our manner of reading their language, but we are not reading for their delectation.

I have not yet found a thoroughly satisfactory method for the assignment of a grammar lesson to accompany a lesson in translation. The following method however has been adopted during this year thus far, and not without good results. During the early weeks, on the study of the Life of Caesar, a chapter was assigned for reading and translation, and then during the class period the attempt was made to lead the pupil reciting to correct his own errors by calling his attention to the construction that he had failed to discover. For the following day's lesson, in addition to further assignment for reading and translation, a review of the day's lesson was given along with definite questions on construction accompanied by the proper

grammar references, and ten or more idiomatic Latin expressions suggested by the text of the chapter put into English form to be translated into Latin.

By way of a test, after the life of Caesar had been finished, each member of the class was assigned a chapter on review and was told that he would be held responsible for the reading and the translation of the chapter, the grammar questions, and phrases that had been based upon it. The review was both enjoyable and encouraging. In connection with the Commentaries on the Gallic Wars a composition book has been used in which different subjects of grammar are given in a more systematic way. These lessons have not been slurred over in class recitation, but definite questions have been formed that called for exact answers, and the principles thus stated have not only been used in translating the sentences from the lesson in composition for the day, but the effort has been made to find their application in the lessons from the Latin text as well. This has led to frequent reference to previous lessons in order to find an illustration of the principle of grammar under discussion. Thus, when, in the lesson on the agreement of the finite verb with its subject, the statement was made that two or more singular subjects connected by the coordinate conjunction, but thought of as forming one common whole, take a verb in the singular number, the illustrative example was found in B. G. I. 1. "Gallos ab Aquitanis Garumna flumen, a Belgis Matrona et Sequana dividit." Here there is the compound subject *Matrona et Sequana* which is thought of as naming the single boundary between the Celtic and the Belgic Gauls. And again, a fine illustration of the principle that the relative pronoun sometimes agrees with a predicate noun in its own clause rather than with its antecedent is found in the third chapter of the Life of Caesar, "Cumque Gades, quod est Hispaniae oppidum, venisset," when he came to Cadiz, which is a *town* of Spain—not a *river* or a *mountain ridge* or something else.

Our illustrative sentence found thus in the text that the pupil is reading is worth more to him than ten cited in the grammar under the statement of the principle. For the latter very likely contain words with which the pupil is not familiar, and he does not often take the pains to consult a lexicon for their meaning, and so tries to learn his grammar principles parrot-like.

Unfortunately for my plan in the study of Latin grammar, Caesar's commentaries do not afford illustrations of each of the three main divisions of the subjunctive mood as found in simple sentences. Nevertheless, by the study of the lessons in composition, we try to secure a more comprehensive understanding of the subjunctive mood than was gained the first year, and we are on the alert to discover from the text illustrative examples of the principles studied.

The real difficulty in translation arises only when the translation of the subjunctive construction requires the use of modal auxiliary verbs in the English. Hence these are points to be especially emphasized in the teaching,

if the purpose is to teach a correct use of the English through the study of the Latin. Here may be mentioned the subjunctive mood in indirect discourse that represents the imperative or the hortatory subjunctive of the direct, temporal clauses containing the imperfect or pluperfect subjunctive that represent the future or future perfect indication, and the future conditions. There are, of course, uses of the mood in direct discourse that present the same difficulty. For instance, its use in a clause introduced by *priusquam* when the verb of the clause expresses an action not as an actual occurrence but as anticipated by the agent of the action expressed by the main verb. The translation of clauses of purpose, when not translated by the English infinitive, present a like difficulty. Other cases also could be mentioned.

The student of Latin discovers that the vocabulary of the language is quite limited, but the high school pupil does not appreciate this fact. His idea is, rather, that the Latin words are peculiar in having so many meanings attached to them. Hence he wastes precious time in looking up the same word many times over. What help can be given him here? Put emphasis on the first or root-meaning of the word, and then compare different passages in which the same word is used but must be translated by different English words. Thus, in the sketch of Caesar's Life, the word *conflavit* is used in the fourth chapter and *conflaverat* in the ninth. In the former it should be translated *contracted*, as it has as its direct object *aes alienum*, Caesar contracted so large a debt; whereas in the latter it is best translated *had stirred up*, for here we are told that Caesar met with a more difficult war in Spain, which Cn. Pompey, the son of the Great, had stirred up. Another meaning of the word is *kindle*. This comes nearing the root-meaning *blow together*, or *blow thoroughly*, as in starting a fire. In the one passage the word literally translated sounds very much like the modern slang expression *blow in*, for we moderns say of a spendthrift, he blew in a very large sum of money. And Caesar was something of a spendthrift. In the other passage the war is thought of as being just as destructive as a terrible fire that has been kindled for the purpose of causing destruction.

Another help in disabusing the pupil's mind of the feeling that Latin words alone are unique in their large number of different meanings is to have him consult the English dictionary for the meanings of some particular word, as the word *government*, and then try to form sentences in which he will use this word in its various meanings.

Much help can be given pupils in the intelligent acquisition of a vocabulary by the persistent application of a very few of the simplest principles of etymology. Having learned the meaning of the adjective *liber libera liberum*, the pupil should not be allowed to commit to memory the noun *libertas* and the verb *liberare* as two other isolated and independent words, nor to remain ignorant of the fact that the noun *liberty* and the verb *liberate* are the English corresponding derivatives. Compound verbs, too, should be studied

with a view to discovering the meaning that the prepositional or other prefix gives.

In some books several pages are given to lists of related words. But I have never felt that the time given to the study of these as assigned lessons was profitably spent, and for this reason. The whole number of words in a list will not be found in any one reading lesson, and so the pupil, if he learns them, will have to carry such words in his mind as so many isolated facts of knowledge until in some subsequent lesson he may find use for them. The better way is to learn the new word as we find it in the lesson by discovering its relation to some other word or words previously learned.

As a last point, I would say, I put strong emphasis upon a grammatically correct English translation. This takes time and much questioning and explanation, but it is worth the while. For the main purpose in the study is to learn to *read*—not Latin, for the majority will not pursue the study of the language long enough to learn this, but rather English—and to read with understanding.

LATIN FOR THE AVERAGE HIGH SCHOOL PUPIL.

MISS ELIZABETH L. WILCOX, JACKSON.

To begin with, I should make the study of Latin compulsory for at least the first two years of the high school. Not because force is the easiest and surest way of continuing the demand for my services; but because the study of Latin is the best possible preparation for life and the meeting of present day conditions that any school presents to its pupils; and this without reference to their station in life or their vocation.

I have solicited information and opinions from Grand Rapids, Detroit, Battle Creek, and Calumet. The percent of enrollment who are in the Latin department of these schools is as follows: Grand Rapids, thirty-one; Detroit, thirty-seven; Battle Creek, twenty-six; and Calumet, with sixty-five percent of pupils of foreign parentage, has forty-five percent in the Latin department. These schools lend support to my contention that for the first two years Latin should be required.

I have the utmost sympathy for the utilitarian idea in education. It is the cry of the poor for their promised kingdom. And when you have made school attendance between the ages of seven and sixteen compulsory, you have taken a long step toward answering the cry. The problem now is with what and by what means so to fill these years that the strongest and best characters shall be the result. What is needed in the battle of life (morals and religion being granted) are mental and physical vigor and

strength, plus as much information as may be acquired in the meantime; distinctly it is not the converse: information and as much mental strength as the acquisition of the facts necessarily involves.

There is nothing so conducive to this development of strength as steady concentration along some one definite line of thought. And the more difficult of acquisition this subject of attack is, up to the limit of the capacity of the student, the better is it adapted to develop the strength of mind required. And there is nothing in the curriculum of the high school which so well meets this fundamental demand as the study of Latin. Remember, I am thinking of the average pupil who is to pursue his school education no further than the high school. But the same arguments apply with much greater force to those who are to take a college course.

To hold his own among intelligent, well-informed people with whom he will be in constant contact, the pupil must have something of a knowledge of science, history and sociology. If he is ambitious to attain the acme of educational heights he should have a bowing acquaintance with French and German. And for his own educational purposes nothing of mathematics is to be omitted. Together with this he must have begun to learn appreciation and understanding, and to know where to find additional information where he requires it.

And this is all it is possible to get out of a high school course even if all the student's time is given to these things. A touch and go system has been pursued, and in the eagerness to grasp a little of everything the ability to acquire has been dissipated. It is true that the pursuit of any of these studies is educational to a degree, but not to as great a degree as would have been realized by the study of Latin.

With a preparation of two years' work in Latin, the student would approach the study of any of these with a confidence and mental preparation that would enable him to reach greater results in less time. The reason is obvious. He has had his mind held to the study of one subject till he has learned concentration and close application, discriminating adaptation of part to part with a view of the rounded out completeness of the whole. He may not be aware of this. Still, it has become the mental habit under which he works.

I am speaking strictly from a utilitarian standpoint. But now the educational standpoint and the utilitarian are identical.

Review the points and consider each by itself. History of the United States he has left behind in the grades. All that will be remembered of ancient and medieval history could have been gained by a course of classroom reading involving little work outside. He now forgets his history because it has to him no associate values. Had he been obliged to dig out of the *original* some of the history of Rome, those facts would have stood fast in his memory and have served as pegs on which to hang any other historical knowledge that, through reading, should come his way. All that

he can get of the modern languages is the ability to translate by the help of a dictionary. With two years of Latin he could approach these languages with confidence, having already done something along that line which was more difficult, besides having some idea of what entered into their making. And his progress in them would be much more rapid.

When it comes to the study of science, besides the advantage a student of Latin has in acquiring the nomenclature, Professor Shorey says, "His teachers will be sorry he was not set to gnaw the file of Latin grammar for a year or two."

In English the student has become somewhat acquainted with a few of the leading English classics and he has acquired a fund of information as to construction and the names of figures used that would have caused their authors to blush with shame for their own ignorance.

But for real appreciation and ability to understand the classical references with which these works are filled, there is nothing like a four years' course of well chosen translations of Latin; while for expression and construction, nothing is better than a drill of four years in Latin translation.

What remains as strictly utilitarian and with the minimum of educational value are the courses in manual training and domestic science and the commercial course.

Superintendent Hall of the third largest high school in the state says, "After two years of Latin a boy will enter a class in manual training and in one year will accomplish as much as he could have done in three had he entered at first without Latin and continued without it." This logically applies as well to domestic science and the commercial course.

As for equipment to command immediate remunerative employment, Mr. Loeb says, "The business and utilitarian value of the practical college course is very slight." How much more is this true of the courses offered in the high schools.

That is, without the study of Latin the student has gained nothing that will yield additional and immediate money returns, and he has missed the mental discipline that the study of Latin would have insured.

Make the study of Latin alive! To do this beyond what we are doing, if need be I would recommend the reading of "The Classical Weekly." But what possibility is there for us to do this to the pupils of the high school? Let the student have two years of Latin before he comes to the high school. Let him come to us as letter perfect in the declensions and conjugations as he is in the multiplication table. Then we shall be able to do more good work with him. I should be afraid to suggest such a thing were it not that Professor Kelsey advocates beginning Latin in the sixth grade. It is entirely feasible; the subject is purely a question of memory, and that is the time when the child naturally exercises that function of the mind and when it is most retentive. The subject is fully as interesting as the multiplication table. The average child is not mentally lazy. Let some things in the

grades go. He will acquire them in a third of the time a little later. While he is wrestling with higher arithmetic he might better be memorizing Latin forms. But how are we to get this? In the grades only by influence. The Latin would for a time be elective, and only the elect would take it. But children are imitative and love to excel. Time would do the work with them. In the high school, the people, broadly speaking, will take whatever is required.

The charm of knowing a little Latin is fully known only to those who know *only* a little. There is nothing that so makes for the obliteration of class lines as parity of education.

I am not contending that the study of Latin in the high school will solve all social and industrial problems; but I am saying that it will result in producing a mental vigor better fitted to deal with present-day problems than will any other course of study.

THE HUMANIZING OF THE LATIN TEACHER.

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At the outset we are to take for granted the necessity for thorough preparation on the part of the teacher, sound scholarship and complete sympathy with the ideas and ideals of the Classical World. What I have to advocate, you understand, is in addition to all of these, not a substitute for them. Nor do I wish to minimize the importance nor the difficulty for the student in the learning of paradigms, vocabulary and principles of syntax. I have no panacea to offer, no sleight-of-hand trick to make the pupil master hard things easily, nor do I think this desirable. Latin is hard: I want it to stay so. People get about what they pay for in this world, and a pupil who does not want to expend much energy upon a subject must not expect to get much in return.

Let me repeat it, then: Latin is and should be difficult,—nor can I claim that there is anything so madly exciting about the development of the fourth conjugation or even the siege of Alesia that a good healthy boy would become so engrossed in it as to forget to go skating, or even to go to bed. But we all know that under good able direction pupils do become very fond of Latin and I know of no subject better calculated to retain and strengthen this feeling, once it is awakened. But I am quite sure that the personality of the teacher has much more to do with this than we are accustomed to realize.

Now, I am going to give you a bit of personal experience,—without apologies,—because it illustrates what I have in mind.

When I left this University some ten years ago it was with a license

(I use the word advisedly) to teach Latin and German, and in the small school where I began I had them both. But so many of my Latin pupils failed so tearfully, and those who struggled on floundered so wildly, that the constant butchering of a favorite study became a nightmare to me, and I longed to get out of it for good and all. The fine Hibernian flavor of my German was not unknown to me but I fondly hoped to wear that off with a year's study abroad. Meanwhile I lived up fairly well to an ideal adopted in college, read a little outside Latin, two or three hours a week, took a couple of periodicals,—and because I felt that I was growing to like it less and less, I was the more conscientious in my dealings with it; but always with the idea that I'd do the very best I could with it, while I must,—and get out of it the first minute that I could.

Then came an illness which left my sight so impaired that I dared not read a line beyond what the actual day's work demanded,—and I found ways to shrink these demands considerably. At first I was quite lost; not to be able to read, nor write, nor sew,—just to sit and twirl one's thumbs is maddening when one has grown up almost a bookworm; so I really looked around for something to take up my time,—and have never had an idle minute since. At one time and another I have been coach of a girls' Basket Ball Team, leader of a High School Orchestra, manager of a Tennis Club, patroness of a fraternity, chaperone of the Junior Class, besides innumerable temporary spasms of activity such as all of you are familiar with. Just now I am interested in organizing a Home and Employment Agency for our out-of-town pupils,—and hope to make it effective in September. The benefit which accrues to the pupils from some of these things is doubtful; the advantages which I have received are certain.

Now when perfect health has made it possible for me to renew my reading, I find myself teaching only Latin,—and grudgingly delinquishing by Cicero class because I really haven't time for it. And this, I am sure is due entirely to a more complete understanding of the ideas, ambitions and especially the limitations of the pupils.

Now do not at all misunderstand me. I am advocating no invertebrate system of discipline, no vaudeville styles of making a subject attractive—no peptonized and predigested form of mental gruel. From beginning to end of the hour should be good hard work for everybody and the more intimately you know your pupil out of class the more work you can get out of him there.

Much of the lethargy which has reduced Latin to the painful state, where it is necessary, or even desirable, to set forth reasons why pupils should study it, is to be accounted for in this way.

Latin, along with English, Mathematics and History is the foundation, in my mind, for any sort of culture—but nowadays many are running up structures on very slender underpinning. One reason, at least, for this, is that in this very practical age, Latin teachers are so very impractical.

Read through some literature upon Latin teaching or look through a text, say a Caesar, designed for a pupil of fourteen or fifteen, and not exceptionally endowed with brains, industry or ambition. Here he is confronted with a multitude of words, each with several meanings, a dreadful tangle of cases, genders, numbers, moods, tenses, and a miscellaneous assortment of queer syntactical ideas, which he has only half assimilated; but in addition to all of this, one must know something of the life and career of Caesar and his important contemporaries, the geography and history of North Italy, Gaul, Germany and Britain, the organization, equipment and tactics of the Roman army and its adversaries, the formation of a camp, making of intrenchments and other defences, how to build a bridge, to rig a boat, etc., *per omnia saecula saecularum*.

Is it strange that so many charming little verses adorn the blank pages of our Latin Books?

"If there should come another flood,
Hither for refuge fly,—
Though all the world should be submerged.
This book would still be dry!"

"All are dead who spoke it
All are dead who wrote it.
All die who learn it
Blessed death, they earn it."

This view of Latin is of course often a mere pose, but the fact remains that many a pupil is needlessly confused and discouraged by this gormandizing tendency of our Latin courses; in their attempt to become broad as the ox they share the fate of the frog.

Now there should be no teacher who does not know all of these things enumerated above, and many more; but happily no real live child is ever going to; he will merely approach it as he does the horizon.

But the more he thinks of you as a living personality, in touch with many phases of modern life, the more ready he will be to go back with you into the mysteries of the past. The more clearly you stand out as a real factor for progress in your community the more willingly he will accept your ideals in education.

The failure of the Success Magazine, which caused so much comment because of the paradox it offered, is too good a parallel to many teachers. How are people who themselves really live so little, going to teach others to live?

Your children are everywhere, active and alert, awake to every impression. The fund of miscellaneous information of children is a never-ending source of surprise to me. Now if you are almost a stranger in

his world, can he be blamed for thinking it no great crime to be a foreigner in yours?

If the doctors, lawyers, ministers, merchants, manufacturers, etc., were as engrossed in their own affairs as most teachers are, civil life would long ago have ceased to be. If the subject of which we are the exponents, gives one no more dynamic force than most of us exhibit, it is not to be highly commended; and if it takes from us what little we had to start with, it cannot be exterminated too soon.

Our one hope is that the educated people will modify the ideas of the rest. I would not have all of you go into politics,—nor do I think that a person who teaches five days in the week should accept the responsibility of a class on Sunday. But there are plenty of other activities that will be a relaxation to you and a help to your associates. I remember of thinking it odd when I was a student that our own Professor Kelsey should be so interested in so unrelated a field as music. Now I am quite sure that the time given to it has not been taken from his Latin, but has been a real factor of his success in it.

Years ago the world asked of its scholars "What do you know?" To-day it says "What can you do?" Efficiency is the gauge by which every person and everything is to be measured. Not always "How much money can you earn?" But "What do you stand for?" "For how much does your influence count in any movement of general interest to your community?" If the better educated have no power nor desire to aid in molding the sentiments of the others, all our hopes of progress, our entire system of government is doomed. "Noblesse Oblige."

"But," you will say, "we have no time." When you want a thing done at once and with exactness, go to the busy man: he is the only one who can attend to it. Is the running of a schoolroom or of classes, really so much more arduous than the management of a huge factory, or store, the intricacies of the banking system, the nice treatment of a dozen diseases, where as many lives hang in the balance,—are these and a hundred other vocations really so much less monopolizing than teaching?

This argument, that a teacher has too little time, is as poor as one commonly urged against equal suffrage. Personally I am not agitated over this matter, but when I hear a woman's business is tending to her home and children, I always want to say: "Where in Heaven's name is a man's? Has he no work? Won't it suffer while he is studying politics? Surely no man will admit that the average woman has to work longer or harder than the average man, who finds time to vote when he chooses, but is often too lazy to do so.

To us, as well as to housewives, our business, however important, is only one phase of life. To many teachers, and I think especially to Latin teachers, it tends to become all-absorbing. Our world is so remote in many ways from today, the habits of thought so different and yet so engrossing,

that we are in danger of being buried alive. Many an enthusiast becomes a hermit, retreats to the fastenings of his absorbing realms of research and delving and grubbing in the caves and hollows, he becomes deaf and blind to what would be vastly interesting to those same old Romans if they could only see them. We mere teachers, catch only his contempt for things commonplace, without getting a breath of his inspiration; and the reflection of a reflection of an artificial light is but a poor substitute for the sunshine.

Do you imagine that if Caesar and Cicero were alive now, they would spend all of their time deciphering Aztec inscriptions? Not a bit of it! Caesar's hat would surely be in the ring. Cicero's impassioned eloquence would be leading the attack against the trusts. Pliny would be examining that volcano in the Panama, or returning from the South Pole. Horace and Ovid and Virgil would be editing or writing for magazines,—Terence and Plautus would be putting on plays at the New Theater in New York,—and you and I, dear teachers,—you and I,—we would be so busy correcting prose papers or puzzling over obscure passages, that we would know little more than the names of these illustrious gentlemen.

You, who teach Caesar,—what do you know of the organization and equipment of our own army? What of its tactics? What of our coast defenses? Of our artillery? You who so learnedly expound the political conditions and judicial procedure of the republic,—what do you know of our own courts, our own magistracies, and civil offices, our elections and party issues? You who discant upon social and moral conditions in the time of Augustus, what do you know of the industrial social and economic problems of our day? You who are so amazed at ignorance of the great men of antiquities and their achievements—what do you know of the exploits of today, and its men who are to go down into history? A general idea on each of these subjects you have, of course, but shall you accept so hazy a notion of them from your students? And if these problems that confront you moderns are not worthy of your attention, why should you worry about the same things two thousand years ago? History that has no bearing upon the present has little value. Many a teacher has been so painstaking and conscientious about the details of his work, as to lose sight of its purpose entirely. Learning simply for the pride of knowledge, is sheer vanity.

Ceteras pudeat si qui ita se litteris ab diderunt ut nihil possint ex eis neque ad communem adferra fructum neque in aspectum lucempue.

MODERN LANGUAGES CONFERENCE

SOME PROBLEMS IN TEACHING MODERN LANGUAGES IN A COLLEGE.

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In view of the brief space of time to which this paper is entitled on this program, it will be impossible to enter into a thorough-going discussion of all the problems which are met in the teaching of Modern Languages at the small college. Even their enumeration in full would produce a paper of inordinate length and one sure to tax the patience and try the optimism of my audience. It would seem to be both wise and proper, therefore, to limit our consideration to several of the more important problems with which the teacher of the Modern Languages in a college finds him—or her-self confronted. In some instances it may seem proper and possible to suggest some means toward the solution of the problem. In others no solution has been suggested, thus leaving the topic the more open for free and spontaneous discussion.

It is evident that to some extent, indeed, to a very great extent, the problems of the college-teacher of the Modern Languages are also those of the High School teacher of the same subjects, upon the one hand, and of the University teacher upon the other. For in a degree greater or less, as the case may be, the conditions out of which the problems of the college grow prevail also in the High School and in the University. Sharing, as it does, the responsibility for preliminary training in the rudiments of language and literature, as well as that for advanced work of a different type and directed toward the preparation of teachers, many difficulties are encountered which are by no means peculiar to the college alone, but which may, on the other hand, have to be met by methods different from those of either High School or University. These are largely the outgrowth of conditions to which the small college is subjected by reason of its financial limitations, its restrictions due to the lack of a broad vision and proper sense of relative values on the part of those who direct the policy and shape the curriculum, and by the character of its patronage.

For the purpose of this paper the problems of Modern Language teaching may be classed as

- (A) External and
- (B) Internal Problems

or we may speak of them as

- (A) Incidental and
- (B) Inherent Difficulties.

The former are those problems that confront the teacher, arising from such considerations as are the outcome of his situation or position, the demands upon his time, etc. They are not directly pedagogical problems, but are none the less of great account in determining the grade of work the teacher shall be able to do. Those of the second class, the internal problems, are difficulties that grow out of the nature of the subject and of its treatment at the hands of teacher and student. Among these difficulties we shall perhaps find some to the solution of which we may, with some degree of reasonable hope, apply our efforts.

Some of the greatest problems that confront us in the consideration of this subject are problems that relate to the teacher himself. For if we direct ourselves to the question, "How shall the efficiency of collegiate instruction in the Modern Languages be advanced," our first question will be: "What about the teacher?" Assuming for the purpose of shortening our discussion that he—or she—is a conscientious, efficient person, well trained in the essential requirements of his—or her—subject, as well as in the field of general pedagogy, assuming this much (and that is perhaps assuming a great deal), there are still some problems to be met that concern the teacher and his work.

One of the most distracting conditions, peculiar by no means to Modern Language instruction in the college but contributing a heavy share of evil effects to a task already difficult enough, is the variety of subjects sometimes assigned to one instructor. The causes of this state of affairs are usually obvious and generally unavoidable, but the fact of the impairment of the work of the instructor because of its impossible scope, or spread, also remains and constitutes one of our vital problems. How can we expect the maximum of efficiency from a teacher, who has to spread over such a list of subjects as: German, French, Spanish and Latin? One can teach such a variety and survive; possibly the pupils may also survive. But what of the results? Can they be satisfactory?

The group of subjects named above is not one of the worst combinations, however. They are at least all languages and somewhat related. But consider such lists as these:

German, Mathematics and Sciences;
French, Latin and History;
Latin, Sociology and French;
German, Greek and Psychology;
Botany, French and Drawing;
German, Language and Literature; Music, Elocution;
French, Domestic Science and Physical Culture!

While it is impossible to expect that all college language teachers be specialists in their chosen subjects, with residence abroad and research work credited to their accounts, it is just as impossible to imagine that the

average college will be able to engage separate teachers for each subject, so that one may have to give instruction only in the subject for which he is best fitted and prepared. But until that is more generally the case, we shall have much the same limitations in the quality of instruction given in our colleges.

Very similar to this difficulty with which the college teacher is beset is that other problem of "outside activities" that is so productive of poor work on the part of the teacher. In the college perhaps more than in High School or University the teacher is supposed to be at the service of the public. Insistent are the calls upon his time and energy in the most widely divergent directions. For work along religious lines, for special efforts in the local clubs and societies and even in distant localities his services are requisitioned. And, this extra work is not confined to the presentation of papers and addresses along the line of his own work, productions that might have more or less hearing and effect upon the work of his own field of study; it covers the widest field of activity and enters upon lines of thought entirely foreign to his chosen work, thus serving as a distraction in the most pernicious sense. It distracts from his best efforts toward the ends he must consider paramount,—those of his special field of work; it saps his strength and vitality and unfits him for his own duties; it tends to defeat the very purposes for which he was actually engaged. Not that we mean to declare that all outside activities are "of the evil" and should be eliminated. Indeed, a certain amount of such work is not only allowable, but helpful and commendable. It offers a pleasing relaxation and change from one's own routine and thereby tends to improve one's work.

In this connection we may consider the effect of the same condition upon the work of the college student,—the result of too much outside activity. To a far greater extent at college than at the University or High School does the student find himself involved in activities, which may be perfectly commendable in themselves, but which are decidedly fatal to the highest efficiency in his class work, when multiplied, as they often are, and allowed to encroach upon his time and strength. At the college, because of the smaller number of students, the same individuals are apt to be found participating (madly) in the most varied fields of activity, and endeavoring to acquite themselves of duties and responsibilities which are too numerous and exacting for their time and strength. The effect is of course to weaken and cheapen their legitimate college work, their studies, the ostensible purpose of their attendance at college, and to make impossible the highest efficiency in the field of work for which they are preparing. To guard against this should be considered one of the most sacred duties of any faculty or body of instructors, whether at college or elsewhere.

The question of being hampered by utterly inadequate salaries, which fail to allow of proper provision for books, and other equipment, for travel, and for all the other elements of the teacher's life which make for efficiency;

the lack in the smaller college town of those advantages in the line of music, the drama, and other factors which have so great a bearing upon the keeping in tune with the highest possibilities of the teacher's work; the lack of adequate library facilities for the most modest sort of research work, or even the work of every-day class preparation,—these, and other similar subjects, must be passed by here as being too familiar to need discussion, and as not peculiar to our teaching only. In fact, the difficulties already rehearsed are common to the teachers of all subjects at college, and are not here mentioned as being peculiar to our field, but as certainly affecting the work of our department. While common to all fields of instruction, they are among the most important factors of success or failure in Modern Language teaching.

But, to turn to the inherent difficulties of our work,—the internal problems of Modern Language teaching at colleges. Among the most discouraging difficulties the teacher of the Modern Languages finds confronting him is the lack of seriousness which the student manifests toward his subject. This is due in part to the fact that the modern living language is, indeed, easier to learn than the classical languages, with their more extensive paradigms, etc. In part, also, to the very fact that this has been over-emphasized in discussion and in treatise and the fact is often lost sight of, that anything more than a mediocre command of the modern languages actually requires, because of their lack of conformity to set paradigms and laws, far more application and exactness before one may rightfully claim the power to use it correctly. (Witness the difficulties met by foreigners in the acquisition of a reasonably perfect English.)

Somehow the mistaken idea still exists,—and, alas, even among teachers,—of *other* subjects, of course,—that, as compared with the classics, the modern languages, and particularly French, may safely be selected and pursued as “snap courses.” This may be, and, in fact is, at times, the case; there is, indeed, some foundation for this idea, erroneous as it usually proves to be. It is met with perhaps more often in the French department, since French, like English, has a minimum of grammatical forms and rules to be memorized, and since it begins to read quite easily, apparently. Where this idea persists and is not at once corrected it is sure to result in slipshod work, if not in utter disaster. The only remedy applicable to this case is the clear statement of these dangers and proof of the fallacy of such notions. If the real state of affairs is once clearly realized and the difficulties are properly presented as actual and great, but not insurmountable, then one may hope for a different attitude on the part of the student, a willingness to face the task; and this is the usual result where the teacher takes pains to make things clear. Where all the aids of *Materialienstudien* are faithfully made use of and every opportunity seized, to demonstrate the reality of values, which can be fully appreciated only through the medium of the foreign language itself, this difficulty tends to vanish and an interest is

awakened that is the only means of solving this problem and dispelling the haze of indifference.

Another prolific source of difficulties in the college work is the lack of proper preparation, in case of those who have begun their study of the Modern Languages in high schools or preparatory institutions; the same is true, also, of many who are prepared in some of our colleges. I do not indiscriminately attack the work of all High Schools or academies; it is well-known that some of the very best and most careful work is done by the teachers and the pupils in such schools. But there are those, nevertheless, where, for various reasons, the work in the first years of the course is but half done. In many instances it were far better not attempted at all; for precious time is lost in attempts at undoing the mistakes once made; in many instances it is simply impossible to remedy the mischief done, even by most careful repair work. Among the causes of such conditions are:

- (a) Lack of application on the part of the student in his High School years; this is often due to what one writer has termed "the coddling process of our public schools."
- (b) Undue number of subjects undertaken by the H. S. student, or, rather, required by the course—resulting in habits of superficial study and final indifference.
- (c) Lack of preparation of the H. S. teacher,—due again to a variety of causes (means, time, realization of need).

Some of these causes that make difficult the handling of the work of the student who comes to college with credit in French or German are again the source of difficulties for the student in college. For instance: the lack of concentration, due to the fact that the student is attempting to cover too many subjects at one time. This is a danger against which the authorities attempt to guard by means of ingenious rules and regulations, which the student usually manages cleverly to evade, if he so desires.

Closely related to this matter is the alleged necessity for covering much ground in the courses offered in the curriculum. This is a fault which must be laid at the door of the faculty and its results are like unto those of the preceding vice. Instead of achieving concentration, we attain unto diffuseness and end in distraction. In our modern language courses, too, an amount of work in excess of what can be carefully assimilated and satisfactorily digested is often outlined. While it is proper to strive toward the accomplishment of all we may do well in the allotted time, we should guard carefully against the temptation to sacrifice quality to quantity,—thoroughness to a mere skimming. For inevitably this sort of teaching produces loose methods of study and careless work. Particularly is this true of the first two or three years of language work. If right habits are not formed

at this time and more than that, if the foundation is not carefully laid, the result will be disastrous. In this connection it may not be inappropriate to quote the words of Luther:—

“den vil buecher machen nit geleret, vil lesen auch nit,
sondern guot ding und oft lesen, wie wenig sein ist,—das
machet geleret in der schrift.”

The work at this stage of the course should decidedly be intensive rather than extensive. More advanced work may and should be done rapidly,—never too rapidly, however, to allow of thoroughness,—and the teaching that does not fit one for accuracy is lacking in real efficiency. But at the beginning of the course in French or German, it is essential that there should be laid a safe foundation in the elements of the language upon which to build the structure we have undertaken to erect. Here, above all, there should be honest work and the very best of materials and methods employed. Here it is that accurate and thorough-going drill in forms and syntax, in easy reading and composition, and particularly in the independent colloquial use of the language must find its place. Memorizing and *use* of simple expressions from the foreign tongue are proper from the very outset; reproductive exercises both oral and written prove of the greatest value; in connection with the “translation method” there is ample opportunity for an abundance of drill of this kind and it will be found to lead to most happy results; those who favor the “natural method,” while on the right road as to method are at this stage apt to under-estimate the need of absolute accuracy and insistence on more than a mere repeating of given phrases. Here each school may profitably borrow of the other. Their aim must be the same throughout: to lead to a ready ability to use and understand the foreign language, spoken and written, and eventually to an appreciation of the thought and character, the genius of the people whose native tongue it is. In the arrangement of the courses, then, time must be given in the earlier years for close and careful work in the elements, for constant repetition and representation in varied and attractive form of those fundamentals with which the student must be not merely acquainted, but perfectly familiar, in order to attain to any degree of proficiency and speed later in his course. This will make possible in the more advanced classes much more rapid progress and far greater satisfaction and interest on the part of the student in his work. A greater seriousness in the work of the first years will without fail lead to the capacity and to the desire for real work in the later years. Conversely, I may perhaps venture to suggest here: The prospect of a substantial course, giving actual preparation for real service to, the one undertaking it, will stimulate a greater interest in the earlier work of the course and thereby tend to bring about the very result we are aiming at; honest work and real accomplishment.

As to the final scope of the Modern Language course in the college,

the problem is complicated by various considerations. While the broad purpose of the college curriculum is, of course, the development of mental powers and achievement of culture, and the study of the modern languages is admittedly a valuable means to the attainment of this end, still in the outlining of a course of study other considerations must also be regarded. Those who elect our college courses in the languages do so with various purposes and ideals in mind. One of the greatest problems, particularly for the small college, is that of satisfying these divergent demands. With limited resources and equipment, how shall the college provide for such varying demands as the following, for instance:

- (a) The purely cultural course, leading to the degree A.B., interesting all who desire literary appreciation;
- (b) Special preparation for business life, with command of colloquial language and knowledge of correspondence forms and social and economic conditions;
- (c) Preparation of teachers for high school teaching of languages;
- (d) Prospective students for the professional departments of universities who aim at a reading knowledge solely;
- (e) Other classes who care little for any of the above features of language study, but desire and insist on a mere facility in the use of the language conversationally, *e. g.*, for the purposes of prospective travel in foreign lands.

All of the motives and purposes outlined above are laudable and quite worth while; but when the achievement of all these ends is expected and demanded with the limits of the time and equipment of a small college, the prospect becomes indeed confused and distracting.

I think I may be pardoned if I merely "mention by title" such problems as: methods, text-books, preparation of the teacher, library facilities. The one additional problem I wish in closing to touch upon is that of the awakening of a real, vital interest on the part of the student in the subject which he is pursuing, whether that be French or German or Spanish. A solution of this problem will bring with it the solution of related difficulties, such as the lack of seriousness mentioned above, the undue attention to "outside affairs," and other ills, not catalogued here.

In addition to faithful and pedagogically correct methods of instruction in grammar, syntax, composition,—oral and written,—reading and literary interpretation, lectures on history and literature, there must be also some special effort, systematic and protracted, to appeal to the imagination and diversion,—if you will,—of the student, something provided or at least suggested by the instructor for consideration, both in class and at other times

which will demonstrate to the student the real value of those more abstract and unattractive subjects presented in grammar and text-book. In this he must have an actual part himself, if it is to be at all valuable to him, just as he must actually make use of the forms of the noun and verb, if he is to become adept in their use in the sentence. To this end it is not sufficient that he be merely allowed to look at a few things and hear some songs. In the use of the "Realien,"—for that is what I refer to,—he must actually have a real personal part, if he is to profit by them. Wherever possible he must be encouraged to take part in the songs that are sung,—in the French or German club, or where practicable in the class; in the study of maps and charts the student must be encouraged to be the one to locate points of interest in the lesson; in most of the collateral work it should be the student rather than the teacher who presents a report on the related historical, geographical or political matter in question. Again the student will take a far greater interest in letters from the foreign land, in post-cards and other pictorial reproductions of things and places involved in the lesson, if he or she be the one to have had some share in collecting or furnishing them, for the presentation by means of reflectoscope or other means.

Whether it be the student who actually presents such aids to the inspiration of the thought to the class, there is no doubt but that in the use of the "Realien" we have a means of stimulating the interest in the study of modern languages, which has been largely overlooked and under-estimated up to date. Time was when it was considered undignified and would have been frowned upon by most teachers and by almost all governing bodies. But following the use of the lantern in the teaching of the sciences, the day has come when with perfect propriety we may venture to avail ourselves of this adjunct to the more conservative methods of language instruction, and I doubt not but that we shall find several of our problems modified more or less thereby.

While appealing thus by practical and mechanical means to the interest of the student, in order to stimulate his work in the classroom, is there any reason why we should not make the same appeal as far as it is possible to reach them, also, to his parents and friends at home? Particularly the High School and the College, but also the University, through the medium of its extension department, have here an opportunity for effective work. Parents and friends should be reached and interested in the lines of thought with which the school desires to make the student familiar. Upon their attitude, at least in part, depends the position which the young man or the young woman at college will take toward the subjects presented. If we can succeed in demonstrating to the parent or friend the real value of the power we propose to give the student, if by some means they can be brought to see the value to our own nation and people of the culture and thought of the people who employ the language we are teaching, then the attitude toward such subjects will change, and we shall no longer have a hopeless task before us in the very approach to the subjects we are trying to teach.

THE PRESENT SITUATION OF MODERN LANGUAGES IN THE
HIGH SCHOOL.

PROFESSOR ARTHUR G. CANFIELD, UNIVERSITY OF MICHIGAN.

When we teachers of modern languages meet together we are wont to be in a rather optimistic frame of mind. We congratulate ourselves on the rapid progress that the modern languages have made in our schools in the past quarter of a century. We contrast the old professor of modern languages with his one year's course in French and German with the separate professorships for the different languages, and the multiplied and developed courses of the present time. We "point with pride" to the swelling list of members of the Modern Language Association and to the growing number of special journals devoted to our studies. We are not perhaps without a certain complacent feeling of triumph and of superior security and prosperity when we contemplate the somewhat fallen fortunes of our classical colleagues.

But on second thought, and on a careful scanning of the horizon, we shall, I think, become aware of certain facts which may disturb our complacency a little. I don't want to be an alarmist, or to join that melancholy chorus that is forever chanting that everything is going to the dogs. But I do think that it will be for our good to be sure that we see our position just as it is, and that we guard ourselves thus against possible unpleasant surprises. And so I shall lay emphasis—perhaps you may think undue emphasis—on a number of things that I do not remember to have heard discussed in modern language meetings. Perhaps I may best achieve my purpose by making a series of short statements. I believe that they are absolutely true.

1. Though the modern languages have been making great gains in the last twenty-five years, foreign languages as a whole have lost ground.
2. A part of the gain that modern languages have made has been due to the belief that the study of them leads to a different kind of a result from that reached by the study of the classical languages, and a more practical result.
3. It is being recognized more and more that this is mainly untrue.
4. The practical command, if it be attained, is now rarely a real economic advantage for the high school graduate, and will be less and less so as the years pass.
5. The foreign languages will not maintain themselves in a school which holds its task to be wholly to fit its pupils for life, as its phrase is, rather than for college, and which interprets that preparation with reference to wage-earning power.

6. Our secondary school aims are increasingly dominated by the supposed needs of the boys and girls who do not go to college.

7. The high school tends to interpret its task in terms of money values; to make the phrase *preparation for life* mean preparation for *getting a living*, or more exactly, *preparation for getting a better living*.

8. If other considerations than that of how to prepare for making a better living come in to influence the high school course, they are such as tend to fill the program with other studies than foreign languages.

9. The position of foreign languages in the high school is much strengthened by even the slight present college requirement of two units for admission.

10. It seems quite probable that at no very distant day no foreign language will be required for entrance to the University.

I shall present briefly, on each of these statements, the considerations that seem to me to justify me in making them.

1. Though the modern languages have been making great gains in the last twenty-five years, foreign languages as a whole have lost ground.

Here I am less completely in possession of the facts than I wish I were. Especially do I regret that I have not had accurate and full statistics from high schools. But I can present the facts for the University of Michigan, and I feel certain, from comparisons that I have made in other related matters between this University and others, that Michigan is fairly representative of conditions prevailing throughout the West.

The following table shows the number of hours of work in foreign languages presented by candidates for graduation in various classes at intervals since 1886.

YEAR	ANCIENT LANGUAGES	MODERN LANGUAGES	TOTAL
1886	27.5	26.5	54
1890	20.1	31.4	51.5
1894	18.3	30.6	48.9
1906	10.4	25.4	35.8
1910	7.9	29	36.9

It may be said that these figures from the university do not prove anything for the high school. It is hard to believe, however, that foreign languages make a better showing in the high school than in the university, especially in view of what I shall cite later as to the attitude towards them frequently observed there. It will be seen further that candidates for entrance to the university present constantly decreasing amounts of foreign language, and surely those who go to college do not take less language in the high school than the others. Thus in 1886 each candidate presented on the average 5.3 units of foreign language; in 1890, 4.6; in 1894, 4.3; in 1906, 4.6; in 1910, 3.9.

2. A part of the gain that modern languages have made has been due to the belief that the study of them leads to a different kind of a result for that reached by the study of the ancient languages, and a more practical result.

This statement does not admit of such mathematical demonstration as the preceding, but I do not see how it can be seriously questioned. The great advantage of German over French throughout the center and west of the country, and the place occupied by Spanish in the southwest might however be mathematically stated. We teachers of modern languages have doubtless not been guilty of recommending our tongues as rivals of the ancient languages on purely utilitarian grounds. We have stood for their equal value as helps to mental discipline and power and to a liberalizing culture. But that the more narrowly utilitarian notion has been in the minds of many champions of the modern languages in their contention for a place in the schools alongside the ancient languages, in the community at large, and that this has aided the modern languages in gaining the place that has been given them in the high school, practically displacing Greek altogether, will hardly be denied. We teachers, ourselves, while insisting on the ends of discipline and culture, have admitted, with some complacency, the element of practical utility that knowledge of a modern language has, and we have not always been eager to rebuke those who put first or exclusive stress on that advantage, willing to count them as allies so long as for any reason they seemed to promote our cause. Perhaps we have even seemed to make common cause with the enemies of the ancient languages, in our desire to dispute their claim to being a peculiar or exclusive means of culture, and have been willing to see used against them weapons that could equally well be turned against ourselves. Do we not virtually accept that measure of value when we show ourselves greatly troubled because it is pointed out that few of our students could converse with a Frenchman or a German to any other purpose than the painful embarrassment of both?

3. It is being recognized more and more that this is mainly untrue.

The proof of this third statement is abundantly furnished by the continual agitation of the question of method among modern language teachers. With the sessions of our present conference fresh in mind, I fancy you will excuse me from citing other evidence of the existence of this agitation. I do not notice a similar agitation in any other field. Why is this so? Manifestly because the results of modern language teaching are being measured by a demand for practical utility, and it is being realized that they do not meet that demand. I would not be misunderstood here. I do not mean that all those who champion so-called reforms in modern language teaching are aiming primarily at practical utility in their results. But I do believe that had not the aim of practical utility been so generally invoked with the public in connection with modern languages, had not school boards and superin-

tendents and even boards of regents so often insisted on so-called practical acquirement of foreign speech, this present agitation would retreat relatively into the background. But it is still more evident that if modern language courses did uniformly lead to this practical acquirement, the agitation would forthwith cease:—

“Le combat cesserait faute de combattants,”—

or at least the question at issue would be entirely changed.

4. The practical command of the foreign tongue, if it be acquired, is now rarely an economic advantage for the high school graduates, and it will be less and less so as the years pass.

I do not well see how this can be doubted. One of the facts most frequently noted in the cosmopolitan population of the United States is the rapidity with which foreign races and tongues are assimilated, absorbed, fused in the “melting pot,” as Zangwill has called it, of our new nationality of English speech. We see this change going on around us all the time. We live in a community where there is a large population of German descent. The generation past middle life was born in Germany and still maintains its speech, sometimes, especially among the women, without having taken the trouble to learn English. The children of this generation speak German, which was the language of the home; but German is no longer, generally, the language of *their* home; and their children, the grandchildren of the immigrants, the generation now growing up, are often as innocent of German speech as the veriest Yankee among us. And even though immigration from Germany should continue, it will never again furnish such relatively large communities of German speech as were made a generation ago. The new streams of immigration, even though they should be as large as those of the past, will be relatively less and less important in the growing volume of our vast population. The commercial advantage of knowing any other tongue than English in the United States is rapidly diminishing and will soon disappear.

The only objection that could possibly be made to my statement, so far as I can see, would come from the side of our international trade. It may be argued that our foreign commerce is to be increasingly important, as it has been growing largely in volume for years. But in how many communities will the needs of our foreign languages be felt so directly as to inspire the community with the conviction that it would pay to maintain a foreign language in the high school? The only language that would conceivably be much benefited by such considerations is Spanish, and that only in a comparatively small part of the country. But as our commercial relations with our Spanish speaking neighbors increase, the channels of business intercourse will be more fully developed, our business houses will have representatives throughout the South American countries, and the practical knowledge of Spanish in the United States will not be an asset

that can ordinarily be turned into cash. It seems altogether certain that the economic advantage of knowing Spanish will never seem great enough, save perhaps in a very few places, to induce school boards to introduce it into high schools, or to maintain it there.

5. The foreign languages will not maintain themselves in a school which holds its task to be wholly to fit its pupils for life, as the phrase is, and which interprets that preparation with reference to wage-earning power.

This is simply a statement of the logical consequence of the foregoing statements. It must be true if they are true.

6. Our secondary school aims are increasingly dominated by the supposed needs of boys and girls who do not go to college.

It is only one who has been absolutely blind and deaf to the movement in secondary education for the past ten years who needs any array of evidence here. The increasing irritation between high school and university is one of the witnesses to the truth of this statement. The long series of manifestoes in which the secondary school men have voiced their contention grows increasingly imperative in tone, and each year the chorus of assent seems fuller and the voices of dissent more scattering.

Let me quote from one or two of these declarations:

"We believe that the logical and natural relationship between the high school and the university requires that the high schools should not be hampered in their educational development by any such specific demands as are made by all plans of entrance requirements, but be free to prepare their pupils for college or for life according to their own interpretations of their pupils' needs and their knowledge of local conditions. We believe that the school is the proper judge of the character of the preparation and fitness of the pupil for college, and, therefore, believe that the university should place this responsibility absolutely and unqualifiedly upon the schools."

"It is my opinion that the high school should meet the demands of the community in which it is located and not try especially to fit its graduates for some university or college. Since about seventy-five per cent of our graduates do not go to college, why not give them all the advantages possible? The few who do go to college should be admitted on the work they have done and not build up a high wall that will keep them out. I believe that in the past we have forgotten the many in preparing the few. The high school is the poor boy's college, and he should be permitted to get the subjects that will do him the most good in getting on in the world."

The reports of the annual meetings of the N. E. A., department of secondary education, are full of these protests against the mischievous domination of the college over the high school, and of repetitions of the demand that the college, by abandoning all requirement of specific subjects in preparation for admission, leave the high school free to realize its ideal of service to its own particular community in its own way. These demands and pro-

tests have been voiced so frequently that we are familiar with the phraseology that they are likely to take. The high school is the people's college; its task is to prepare for life; its duty is to make its graduates more efficient factors in the community which maintains it. I am not blaming the high school for taking this attitude. I can well see that it is forced to do so.

7. The high school tends to interpret its task in terms of money values; to make the phrase *preparation for life* equivalent to *preparation for making a living*, or more exactly *preparation for making a better living*.

The truth of this statement may not be granted so readily as that of the others, and I offer the following supporting consideration, in addition to what is implied by the emphasis on getting on in the world which you will have noticed in the manifestoes of the high school men already cited. The main interest of the secondary school men seems to be in the enlargement of the scope of the vocational subjects. It is indeed true that the disciplinary and cultural value of these subjects is also asserted. But this is only an afterthought. This value is only a by-product, as it were, of the vocational studies. This is shown, if proof were needed, by the choice of vocational subjects in any particular school. That choice is governed by the economic and industrial situation of the community. Generally it is the commercial or business subjects that come first. But in a manufacturing community it is manual training that is likely to get the emphasis, and in the smaller country high school it is agriculture. Let me make this quotation from a recent report of a meeting of the N. E. A. "It was evident throughout the discussion that manual training and vocational and trade instruction are coming rapidly to the front in education. Much of present educational effort is pronounced waste. The radicals are in control, and a revolution is demanded. The bread and butter problem is for the time the all-absorbing one. Preparation for earning a living is regarded as of more importance than scholarship and refining culture." Such quotations might be multiplied.

8. If other considerations than that of how to prepare for making a better living come in to influence the high school course, they are such as tend to fill the program with other studies than foreign languages.

Civics, history, elementary law, political economy, the natural sciences, are all pushed forward in satisfaction of these other considerations, rather than foreign languages. The demand is for information that will be useful both in making the boy or girl a profitable economic factor in the community, and in making him or her a better, or perhaps rather a less dangerous, political factor in our democracy. How are you going to persuade our school authorities that four years of study of a foreign language—and we are agreed, are we not? that nothing less is really worth while—are the shortest and best cut to any kind of information that will lead directly either to economic efficiency or to good citizenship, to use the terms that happen to be current?

9. The position of foreign languages in the high school is greatly strengthened by even the slight present college requirement for entrance.

This amounts to no more than saying that less attention would be given to foreign languages in the high school if they were not required for entrance to college. That this is true in a vast number of high schools there is no doubt. The movement against the requirement of specific subjects by the university is largely directed against mathematics and foreign languages. A committee appointed by the New York City Teachers' Association recently presented a report advising that body to work for the recognition of requirements for admission to college that would not include foreign languages, and this report was adopted. Let me quote from high school men nearer home. "I believe that a four years course in English is the thing that should be demanded of every student. But the load that we are made to carry in other languages often precludes this work." "I think the demands of the colleges in languages are simply abominable. There are many students working in the languages just because they (the languages) admit to college, and they cease the study as soon as they can. They study them because they have to study them." "I believe the time has come when the English language should be accepted as sufficient to enable any person to acquire an education along any lines save those of a foreign language, or those which look directly forward to a foreign country." Those who have followed the discussion of the relation of high school and college and the vexed matter of requirements for admission know how hostile the temper of the secondary school men often is towards the foreign languages. Who can doubt that in the schools administered by the men from whom I have quoted and by the large number who share their beliefs, other subjects would be urged at the expense of foreign languages were these no longer protected, as it were, by the college entrance requirements? And those who know how widespread this hostility is will not need other evidence of the truth of my tenth proposition.

10. It seems quite probable that at no very distant day no foreign language will be required for entrance to the University.*

When that day comes when no foreign language is required for entrance to the university, how will the study of foreign languages maintain itself in the high schools?

It will not maintain itself if the aims that prevail there should be commercial and political efficiency. It can only be when those aims stress intellectual, moral and aesthetic values. And when the good day comes around, as I trust it will, when these values will be stressed again, the study of foreign languages, whether ancient or modern, will compel recognition only if in the meantime it shall have shown that it possesses a special and peculiar

* That day has come even more quickly than I thought. Candidates may now be admitted to the University of Michigan without foreign languages when coming from an approved school on the list of the North Central Association.

advantage, that other subjects do not share in like degree, in attaining these other aims. It would seem as if the instinct of self-preservation, as well as more disinterested motives, should lead teachers of modern languages to bend all their energies towards preserving, or restoring, to the ideals of our secondary education that emphasis on intellectual, moral and aesthetic values which, after all, are no less practical, in any worthy meaning of that word, than those about which we hear so much more just now.

ENGLISH CONFERENCE

THE NOVEL IN THE HIGH SCHOOL.

PRINCIPAL BENJ. F. COMFORT, CASS TECHNICAL HIGH SCHOOL, DETROIT.

Charles Dickens shows us the ideal way of beginning a novel, when, in "The Tale of Two Cities," he introduces us into the very midst of his tale with the opening sentence:

"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way—in short, the period was so far like the present period, that some of its noisiest authorities insisted upon its being received, for good or for evil, in the superlative degree of comparison only."

These words apply when we listen to our teachers as they tell us about the stupidity of boys and girls in reading and writing English. They say: "Our students have read nothing but trash; they do not speak correctly; they do not understand their grammar, nor their rhetoric; they are absolutely hopeless. I do not know what I shall do; I am worked to death and our school is going to the everlasting bow-wows."

For cases of this sort, I believe "The Novel in the High School" is needed for the teacher as well as the student, and I would prescribe a little dose of Mr. Micawber or Captain Costigan for all who are weary and pessimistic.

The influence of the novel, on the impressionable mind of our young high school student, is very subtle. It appeals to imagination, it appeals to curiosity, it appeals to sentiment, it appeals to primitive taste, it appeals to undeveloped reason. From whatever point of view we may look at it,

novel reading is a powerful educating influence. The young mind lives the characters whether they be good or bad, and the emotions are swayed, at will, by the artful writer of tales.

Therefore, the school man, in the novel, holds the key which may unlock the inner recesses of a child's heart, so that his soul may be elevated into the paths of everlasting beneficence, or, if the child falls among such friends as "Popeyed Pete" or "The Pirates' Own Book," "Jack Sheppard" or Beadle's Dime Novels, he may fall into depths which have been described :

"A dungeon horrible, on all sides round,
As one great furnace, flamed ;—
Regions of sorrow, doleful shades, where peace,
And rest can never dwell, hope never comes,
That comes to all."

We find that the first few novels are sermons to the child. They are read with spellbound intensity. And what a grand thought we have, that the teacher has the opportunity to quicken a young soul by simply presenting proper intellectual pabulum for spiritual development. The neglect of this opportunity is nothing short of stupidity, or indifference to the dictates of a plain and simple duty.

We know that the novelist is a teacher with a very wide horizon ; and there must be a message to impart, to do full justice to the art of telling a tale. The reader is pleased, in so far, as the story tickles the heart, and the impression left, satisfies the desire for intellectual excitement. The moral influence must be for better living. What we expect the novel to do for the child is, to give him such an outlook upon life that he can see things better from a moral and altruistic standpoint. Although novels are intended for pleasure, yet the impulses of the heart and of the mind, left behind, ought to have a direct influence upon the building of character for the reader. That point of view sums up the whole doctrine to be evolved from the perusal of works of art called novels—namely, pleasure and character building.

The next thought which comes to my mind is how shall we direct the reading among our students in order that they may derive proper benefits from these works of art?

To begin with, we must bear in mind, that we can not put down a rule, or a theory, which will lead us into the royal highway of success ; for, young minds, like older ones, are wonderfully and differently constituted. What may be spiritual food for one mind may be gall and wormwood for another ; yet there is a similarity between minds of certain school ages which we can not overlook. Herbert Spencer has thought very deeply on this subject and he informs us :

"As a final test by which to judge any plan of culture, should come the question,—Does it create a pleasurable excitement in the pupils? When

in doubt whether a particular mode or arrangement is or is not more in harmony with the foregoing principles than some other, we may safely abide by this criterion. Even when, as considered theoretically, the proposed course seems the best, yet if it produces no interest, or less interest than another course, we should relinquish it; for a child's intellectual instincts are more trust-worthy than our reasonings. In respect to the knowing faculties, we may confidently trust in the general law, that under normal conditions, healthful action is pleasurable, while action which gives pain is not healthful."

Dr. Noah Porter, the late president of Yale, has this to say about reading prose fiction:

"If we cannot and would not read all the novels that are published, we should read the best. What the best are, it is not always easy to decide. The novel which is best for the child is not the best for the youth; the best for the youth is not the best for the man; the best for one man is not the best for another. The child and the youth delight in the objective novel—the novel of incident—above the novel of character. By the same rule, the man of introverted and reflective tastes not only prefers the novel of character, but requires that the characters delineated should themselves be of the speculative and introverted cast, and that the plot and dialogue should turn upon some recondite theme, or illustrate some important speculative truth. The tastes of men in respect to the novels which they prefer are as various as their tastes in dress, in manners, and in companions."

To supplement the theories of the psychologists the schoolmaster must bring into bearing his experience, so that we may learn what we can from both theory and facts. With this purpose in view, I have tabulated some statistics from the actual reading lists of about 5000 high school students in the Detroit High Schools. I believe that we can safely deduce some theories to guide us in this work, from expressions of boys and girls, in what they have actually read.

The English teachers in our Detroit High Schools are responsible for this very arduous task, and, if any good may result therefrom, they are entitled to the credit in gathering this information.

In our school work in English, we find very often that we have a lesson in this homely expression: "You may lead the horse to water but you can not make him drink." Therefore, when we find by actual experience what the student drinks, we may be able to take him more often to the fountain of pleasure and intellectual development and be successful in quenching his thirst.

Now, it does seem reasonable, that the great majority of our high school boys and girls have not been influenced by perverted tastes in their reading of novels; yet, when I submit the following lists we ought to bear in mind a few conditions which must have influenced them. Thus we can suppose first, that a child will read that literature which is nearest at hand.

In my mind, a child embraces the opportunity to read whatever is easily procurable. All that is necessary to have a book read by a young person is to put that book into his hands and leave him alone in a room, provided, the book is interesting and not beyond his years. Thus, we will find, if we study the question enough, that those books in the little home bookcase are the ones which are tabulated on my lists most frequently. Then there are the influences of monthly and weekly periodicals and the daily newspapers to be reckoned with in the accounting. The Short Story is driving the present day novelists into the background, and is destroying the desire to peruse a story having pretensions to literary merit. Bearing in mind these latter day influences, on the reading of our boys and girls, I wish to say that they have, as far as I have investigated, done a great deal of very creditable reading. However, in the following tabulations, I have recorded only those titles which have shown sufficient popularity to be recognized as meritorious by Juvenile readers.

Popular novels which have been read by high school boys and girls in Detroit Schools—lists taken from 5000 students:

TITLE	AUTHOR	READERS
Louise M. Alcott's books		2520
Pilgrim's Progress	Bunyan	230
Lorna Doone	Blackmore	860
Jane Eyre	Bronte	98
The Rosary	Barclay	556
Richard Carvel	Churchill	156
The Crisis	Churchill	490
The Crossing	Churchill	78
Conniston	Churchill	62
Mr. Crewe's Career	Churchill	8
Last of the Mohicans	Cooper	400
The Spy	Cooper	186
The Pilot	Cooper	70
The Pathfinder	Cooper	150
The Deerslayer	Cooper	186
The Prairie	Cooper	31
Red Rover	Cooper	18
The Two Admirals	Cooper	42
David Copperfield	Dickens	2368
Oliver Twist	Dickens	1238
Old Curiosity Shop	Dickens	681
Dombey and Son	Dickens	378
Great Expectations	Dickens	510
Our Mutual Friend	Dickens	96
Pickwick Papers	Dickens	298

The Tale of Two Cities	Dickens	350
Nicholas Nickleby	Dickens	234
Bleak House	Dickens	106
Barnaby Rudge	Dickens	110
Little Dorritt	Dickens	164
Martin Chuzzlewit	Dickens	36
Hard Times	Dickens	14
Silas Mariner	Eliot	1060
Adam Bede	Eliot	186
Mill on the Floss	Eliot	304
Romola	Eliot	70
Daniel Deronda	Eliot	22
Middlemarch	Eliot	38
Robinson Crusoe	Defoe	1202
Captains Courageous	Kipling	38
Light that Failed	Kipling	38
Jungle Books	Kipling	96
House of Seven Gables	Hawthorne	408
Scarlet Letter	Hawthorne	110
John Halifax, Gentleman	Muloch	30
Tom Brown's School Days	Hughes	346
Tom Brown at Oxford	Hughes	20
Call of the Wild	London	382
Sea Wolf	London	74
Black Beauty	Sewell	450
Scottish Chiefs	Porter	40
Freckles	Porter	936
Girl of the Limberlost	Porter	512
Harvester	Porter	140
Right of Way	Parker	30
Quo Vadis	Sienkiewicz	68
Old Rose and Silver	Reed	196
Spinner in the Sun	Reed	120
Flower in the Dusk	Reed	62
Master's Violin	Reed	64
Lavender and Old Lace	Reed	354
Master of the Vineyard	Reed	21
Ivanhoe	Scott	2118
Talisman	Scott	314
Waverley	Scott	52
Bride of Lammermoor	Scott	34
Fair Maid of Perth	Scott	72
Rob Roy	Scott	80
Guy Mannering	Scott	66
Quentin Durward	Scott	190

Kenilworth	Scott	252
Red Gauntlet	Scott	20
Black Dwarf	Scott	14
Pirate	Scott	14
Treasure Island	Stevenson	1532
Dr. Jekyll and Mr. Hyde	Stevenson	182
Kidnapped	Stevenson	58
David Balfour	Stevenson	30
Uncle Tom's Cabin	Stowe	988
Tom Sawyer	Mark Twain	392
Huckleberry Finn	Mark Twain	320
Vanity Fair	Thackeray	48
History of Pendennis	Thackeray	10
The Newcomes	Thackeray	6
Henry Esmond	Thackeray	18
Prince of India	Wallace	20
Fair God	Wallace	22
Ben Hur	Wallace	326
Rebecca of Sunny Brook Farm	Wiggins	892
Shepherd of the Hills	Wright	664
The Virginian	Wister	344
David Harum	Westcott	140
Alger Series		852
Henty Series		472
Oliver Optic		224
Motor Boys		174
Swiss Family Robinson		172

The following authors have had 100 and less than 200 readers:

Rex Beach, Barrie, Burnett, Caskoden, Chambers, Connor, W. F. Comfort, B. F. Comfort, Correlli, Caine, F. M. Crawford, Conan Doyle, Dixon, Eggleston, Dumas, M. J. Holmes, Green, Isham, Hugo, Montgomery, Oppenheim, Tarkington, Warner, McCutcheon, E. S. White. 1800 other books read 2 or 3 times are by miscellaneous and obscure writers.

What may we learn from these tabulations?

1. That 5000 high school students scatter themselves over 2000 books and that they follow the path of direct reading, for instance: David Copperfield, 2368; Silas Marner, 1060; Ivanhoe, 2118; Treasure Island, 1523. These are significant facts to show that when novels are systematically presented they are then read.

2. Many of the old popular ones still hold their own; Robinson Crusoe, 1202; Uncle Tom's Cabin, 988; Last of the Mohicans, 400; Oliver

Twist, 1238; Old Curiosity Shop, 681; Ben Hur, 326; House of Seven Gables, 408.

3. Boys and girls will take care of their own predilections; we shall have to make no effort to keep them with their own. The girls testify with the sentimental titles as follows:

Rebecca of Sunnybrook Farm, 892; Anne of Green Gables, 600; Shepherd of the Hills, 664; Girl of the Limberlost, 512; Louise M. Alcott's Little Women and other books, 2520; M. J. Holmes' books, 250; Lavender and Old Lace, 354.

Boys have done justice to their favorites; Tom Sawyer, 392; Huckleberry Finn, 320; Tom Brown's School days, 346; Call of the Wild, 382; Black Beauty, 450; Alger Series, 472; Oliver Optic Series, 224; Swiss Family Robinson, 172.

We have many studies to consider in these lists, and I shall not attempt to reform the world by means of novel reading, but shall be satisfied to have called your attention to a few facts which may later on lead to something practical.

We find that our students have done only desultory reading of novels outside the required few. We find that we can correct some of the omissions of good authors by putting the book that we wish to be read before them. We find that the direction of the outside reading is generally left, in school, to one person, and that is the Librarian. Every English teacher ought to be constituted a committee of one to look over this matter for his or her class. The discussion of novels and their characters is a relaxation, and it ought to have more attention for the happiness of both teacher and student.

Suggested List of Standard Novels of English Literature for Outside Reading.

These novels are submitted with the purpose of forming a working basis which may help to select ten novels for each year's reading in high school.

9th Grade.

1. A Christmas Carol	Dickens.
2. Robinson Crusoe	Defoe.
3. The Spy	Cooper.
4. David Copperfield	Dickens.
5. Uncle Tom's Cabin	Stowe.
6. Captains Courageous	Kipling.
7. Oliver Twist	Dickens.
8. Wee Willie Winkie	Kipling.
9. The Last of the Mohicans	Cooper.
10. Treasure Island	Stevenson.

10th Grade.

1. A Tale of Two Cities	Dickens.
2. Quentin Durward	Scott.
3. Ivonhoe	Scott.
4. Marmion	Scott.
5. Two Years Before the Mast	Dana.
6. The Deer Slayer	Cooper.
7. Ben Hur	Wallace.
8. Nicholas Nickleby	Dickens.
9. Drums of the Fore and Aft	Kipling.
10. Lorna Doone	Blackmore.

11th Grade.

1. The House of Seven Gables	Hawthorne.
2. The Pilgrims Progress	Bunyan.
3. Last Days of Pompeii	Bulwer.
4. The Verginians	Thackery.
5. Silas Marner	Eliot.
6. John Halifax, Gentleman	Mulock.
7. Mill on the Floss	Eliot.
8. The Old Curiosity Shop	Dickens.
9. Pickwick Papers	Dickens.
10. Kenilworth	Scott.

12th Grade.

1. Adam Bede	Eliot.
2. Henry Esmond	Thackeray.
3. History of Pendennis	Thackeray.
4. Rob Roy	Scott.
5. The Scarlet Letter	Hawthorne
6. Vanity Fair	Thackeray.
7. The Talisman	Scott.
8. Our Mutual Friend	Dickens.
9. Romola	Eliot.
10. The Book of Snobs	Thackery.

When we wish to impress students with a desire to read certain books, I would suggest that we hold in our classes, say once a week, a fifteen or twenty minutes symposium on the literature which we desire to be read at home. A short talk about a book and its characters impresses upon the young minds a wholesome curiosity. We also arrive at this method from our own experience. Whenever a story of merit is published, we discuss it with our friends at our firesides or in the drawing rooms, or at the table, and we find ourselves taking up its perusal almost automatically.

There is another method which I have found effective. Whenever a student has read a book, he ought to have a proper record in a booklet made for the purpose, which record has a tendency to cultivate methodical reading, serious reading, and reading for a special aim. There is a very convenient book published for this purpose by Supt. Edgar E. Ferguson of Bay City entitled "A Guide to Helpful Reading." It costs 50 cents. It may be had from the author, Supt. E. E. Ferguson, Bay City, Michigan.

Then there is also another plan which I would suggest: If teachers of English were to organize with their classes a Reading Circle which could carry on a scheme of reading outside of school, directed among themselves, it would be of very great service.

These Reading Circles could hold monthly meetings for mutual improvement and discuss what books had been read by its members during the previous month. This discussion would give many students opportunity to cultivate powers of conversation as well as that of narration, discrimination, and analysis. I cannot think of any more delightful duty than that of arousing proper appreciation of the rich veins of thought to be found in wholesome prose fiction. A plan of this scope takes the place of the home literary circle which has such a benign influence, and, which so many families lack. To sum up this problem of reading helpful novels, there are a few things which require our attention:

First, we may, with profit, carry out a plan of novel reading in order to cultivate good taste and have the right kind of seed sown to the exclusion of trash. I believe the carrying out of the plan to direct good outside reading will help materially along this line. By the principle of exclusion we lead the student into rich fields of thought, which he follows under the guise of pleasure, while, in fact, he learns the characters, the incidents, and the purposes of real life.

Second, we will find by concentrating our efforts, in order to develop the lines of methodical reading (suggested in the forty novels submitted for your consideration) that we have followed the lines of our psychologists as well as the instincts of our students which we have shown by our tabulated lists of readings. The ninth grade student is satisfied with *Treasure Island*, *Captains Courageous*, *Robinson Crusoe*, *David Copperfield*, *Oliver Twist*, *A Christmas Carol*, etc., as they are novels of incident, and hold attention by means of action. Dickens predominates this grade.

The tenth grade selections have a different tendency. They are more of the historical order. Students of this age begin to feel more intellectual importance. They love to talk of happenings in the world past and present—such works as *A Tale of Two Cities*, *Marmion*, *Quentin Durward*, *Ben Hur*, *Ivanhoe*, and *Nicholas Nickleby* elevate the taste from incident to history. This plan seems natural and Scott succeeds Dickens in the preponderance of selections offered.

The eleventh grade is the most difficult problem to handle, for, the

young maiden is becoming hypercritical, and the young man is learning to reason, and he can tell father a few things. For very desirable reasons we let George Eliot, Hawthorne, and a little of Thackeray permeate this year because these students now want a little heavy, character study, and a touch of manners and problems. We must encourage their self esteem and make them feel that they can think out a few things for themselves.

The twelfth grade is under the same spell of self esteem as the eleventh grade but there is more of it. I am convinced that we must encourage our young folks of this age to undertake the very best and the highest works of art in prose fiction that we can offer. Therefore, we follow out very similar lines to those which we introduce into the eleventh grade, but we give Thackeray the right of way. My theory is that if it is possible to cultivate a taste for prose fiction in our students so that, when they reach the twelfth grade, and leave the high school they can be taught to appreciate Thackeray, I will risk the soundness of their taste in reading fiction thereafter; for, the very highest of our critics of English novels have agreed that, when one wishes to judge another's standard of appreciation of the art of fiction, just ask his opinion of Thackeray and you have an index of his culture in his answer.

Some of the conclusions to which I have drawn my audience, in the matter of selected authors being suitable for certain grades, may need some elucidation to explain my reasons. We have assigned Dickens for the ninth, Scott for the tenth, Eliot and Hawthorne for the twelfth, and Thackeray for the twelfth years or grades. Dickens chooses his characters from everyday society; they have easy going manners; he indulges in caricature and catchy sayings; his plots are natural and full of incident; his humor and pathos are side by side and incomparable; his spirit and influence are altruistic; his words bubble over with optimism—which altogether are characteristics loved by us all—both young and old. If the young reader likes Dickens he has begun rightly and there are hopes for his future.

Now Scott breathes the martial spirit; his plots and characters march on, and engross you with their artistic setting. He captivates you with the brilliancy of his language and the wit of his dialogue. He is the father of the historical novel and his influence upon the novelists that succeeded him makes his work doubly valuable—not only from the great pleasure that the student derives from his art, but from the literary taste and artistic judgment received from his work. He, along with Dickens, lays a foundation for correct novel reading. Cooper has a parallel place to Scott in American Literature.

George Eliot with Nathaniel Hawthorne ought to share the attention of eleventh grade students for both have mastered the very highest finish of literary style and thought. Their work has few equals for the fine analysis of character which embellishes their plots. This is a transition from the novels of incident and historical studies to those of character. George

Eliot stands out as a moralist with a pensive mood toward sorrows and tragedies—a very taking quality with the female side of the house—her analysis is subjective—very deep and sometimes pessimistic.

Hawthorne is the very antithesis of Scott in treatment of a theme. Scott—militant, joyous, gay, witty, positive; Hawthorne, moody, dreamy, dainty, hesitating, uncertain—but the picture of one is as masterful as the other. One lays siege to your heart with slow approach, the other rushes on and overcomes you with the blare of trumpets and overwhelming numbers.

For our boys and girls to get an insight into the hearts of George Eliot and Hawthorne will be in the nature of an intellectual triumph. Knowledge of the great souls of these writers elevates and instructs.

But, at last, we come to dear Thackeray. He writes with the most correct style of any of our English fictionists. The depth of humor, the sly hits upon the frailties of human nature are worth so much that we can not read him except with Dickens' expression: "h'admiration amountin' to haw." The finesse of his work amazes the student of human nature and the great soul behind it all makes us wonder that he had only human powers. If I could prescribe for the literary appetite of our twelfth year students I would say: "Give them Thackeray, Thackeray again, and more Thackeray."

Now, I believe I have tired you out with my theories and I will venture on something practical. I believe that we can make our own lives more enjoyable and noble by attempting to elevate the appreciation of the young charges under our care for the best English fiction. Young people ought to have considerable knowledge of one standard novelist. Also by giving variety to them in the selections which I have offered, you will surely strike some chord in the hearts of our youth which one of our authors may attune, and, when found, allow them to read a great deal of their favorite writer. Begin with what the child wants, lead him whither he should go, or, at least, get him pointed in that direction. Thus we may preclude and exclude such writings as may be corrupting rather than elevating.

In conclusion I will suggest to our conference that the chairman appoint a committee to make out an authorized list of 40 standard English novels, having 10 selected for each year, so that systematic reading may be carried on outside of school.

THE DRAMA LEAGUE OF AMERICA IN RELATION TO THE PRESENT INTEREST IN DRAMA STUDY THROUGHOUT THE COUNTRY.

MRS. A. STARR BEST, PRESIDENT OF THE DRAMA LEAGUE OF AMERICA,
EVANSTON, ILL.

That there is a well-nigh tidal wave of interest in good drama and drama study sweeping the country from end to end is testified by experts and laymen on all sides. It is borne in impressively upon the traveling student and is evident to even the stay-at-home. The American people, cultured and uncultured alike, prone to rapid changes of interest, are finding an absorbing delight in the study of drama. Where five years ago there were one or two earnest students of plays and lecturers upon them, there are now many lecturers, readers and interpreters appearing upon the platform daily. All this is evidence of the arousing of the country at large to an appreciation of the tremendous power in its midst, so long ignored and neglected. The theater is just being recognized as an educative force of enormous influence, and therefore worthy our most earnest study. If we can train the coming generation—the audiences of the next ten years, to appreciate and support good drama, to refuse to accept or attend the worthless or unworthy play—the problem of the theater will have been solved. We shall not need specially endowed theaters to put on good plays—the managers at large will have to do it themselves in order to secure an audience. If the audiences of the next decade are trained to know a good play and utterly refuse a bad one, the worthless plays will die an ignominious death. Whether or not the Drama League of America is the sole cause of this rousing of interest in the drama would be a matter of dispute, but it is safe to say that it is not the outgrowth of this awakening, but one of the causes of it. Librarians and book sellers in Chicago testify that since the organization of the League the demand for drama has so increased that they have been obliged to treble their supply of books on this subject and cannot begin to meet the demand. The problem of the stage today in its unworthiness is principally one of education which can be conquered and set right by proper training.

The League sees the saving of the situation, the solving of the problem, to be entirely in the hands of the audience and it aims to create an organized audience to demand and support only worthy plays. In this work the teachers of the country can be of inestimable assistance. It is a matter of common agreement that the blame for the present situation does not lie with the managers alone, but primarily with the audiences. The theatre must remain a commercial proposition, and the managers will give the people the kind of plays which the people are willing to support. Acting on this theory, the League has been organized with the avowed purpose of

securing audiences for better plays. The League is a banding together of all the forces all over the country already working for better drama, and a welding into one concerted whole that shall control the situation in support of better plays. First and foremost among its tenets is the determination not to censor. If there is aught to admire or support, the League is there to support it; if not, the League remains silent—kills by non-support. It aims to do this in two ways: first and the quickest to get into action showing definite results is the Play-going Committee. It is the duty of this committee, which is composed of representatives of as many classes as possible—the expert, the scholar, the “tired business man,” and the mere everyday lover of a good play—to attend all new productions and pass judgment thereon. If the committee deems the play worth while, it issues a bulletin to the members of the League and its affiliated clubs, announcing the fact that such and such a play is being given—time, place, actors and a general outline and description of the play. The League assumes that its members will attend plays which the League has endorsed whenever possible. In this way it keeps its members informed of good plays, in order that they need not waste their time on the worthless material so largely seen.

In every community there is a large element of intellectual conservative people who prefer not to attend the theatre at all rather than encounter the many disappointments which follow a hit-or-miss attendance on a play. They cannot trust or do not agree with the ordinary criticisms which in many cases are much colored by commercialism. Such a one will be glad to receive the announcement of the play endorsed by the League, knowing that here is a play, at least worth while, which will not waste an evening.

Many of the theatre-going public can afford to attend only a limited number of times during the year. To these the League bulletins, announcing always only the play which is worthy their attendance will be of inestimable value.

Out of the 150 plays produced in Chicago last season—the Play-going Committee attended fifty-four—the others were either musical comedy or admittedly too poor to warrant even critical attendance. It is a significant fact that, of these fifty-four plays, they found only fourteen which they cared to urge their clientele to attend. Now, there are many who will find that they do not care to attend the theatre oftener than fourteen times in eight months. It is obvious what help the League bulletins would be to such a play-goer in saving his resources for the plays that are really noteworthy. The League bulletins are absolutely uncommercial—uninfluenced by private interests—the committee, in order to keep their minds unbiased, never accept free seats, and the bulletins appear quite independently of managerial control. The committee endeavors, however, to maintain the friendliest possible relations with the managers, and has found them most considerate and eager to co-operate. So much for the effort to weld together the now existing audiences into sturdy support of the best.

The second branch of the League's work is more far-reaching and more underlying. It will be slow to take hold, but more effective when once it has operated. It is the work of cultivating a taste for the drama—a knowledge of good drama and the ability to judge drama for oneself.

This work lies in the hands of the Educational Committee. This committee is made up of experts who give their services cheerfully—each in the department where he is most at home.

The aim of this committee is to introduce the study of drama in all the clubs of the country; in towns where there are no clubs to start study classes for the purpose; to start the nation at large in a sane, eager, interested study of the play and the principles of play construction. It is surprising how very greatly it adds to one's enjoyment of a play to know why it is good and just how it fails.

The Educational Committee is working in various ways. First of all, it has a department of experts, headed by Dr. George P. Baker of Harvard University, which prepares study courses and reading lists for the use of clubs and individuals.

Moreover, it has another department which endeavors to keep a record of lecturers and readers on drama, in order to be able to give valuable and disinterested advice to clubs and individuals desiring to engage public speakers.

But there are other lines of educative interest. Finding many libraries in the smaller towns of the country strangely lacking in books on drama, but quite willing to supply this deficiency—the League has a sub-committee of experts preparing lists of dramas with publishers and prices for the use of these libraries. Already in this first year of existence from all over the country comes the request for advice from amateurs wanting to know what plays to act. Here is a great educative field—to turn the youth of the country to the study and interpretation of worthy drama. Therefore, another committee of experts is studying this field thoroughly and preparing special lists of various kinds to recommend for amateur acting.

The League is planning also to issue to its members quarterly a list of all current publications on drama and magazine articles on the subject. As the movement grew and the committees studied over this problem of creating this new audience which should demand and enjoy only the very best drama, it came to realize more and more keenly how much depended upon the children. Now is the time to train and develop the audiences of the future. If we can cultivate a love for true drama and a knowledge of it in the child, that child will not submit to inferior plays when he grows up and becomes a component part of the audiences of the future. The children, ever responsive, gave a ready welcome to the idea. Straightway the Junior Drama League was launched. The department aims to create over the country, clubs and small circles of children studying plays—learning the best there is in the classics and giving occasionally a worthy drama. To this

end the committee in charge of this department has prepared a list of plays suitable for children's use. Teachers who have often wanted just this sort of thing will testify how hard it is to find such material. The lists prepared twice a year by this committee of child workers will be of inestimable value to all who are working with children in the schools or out of them.

And what has the League accomplished in its one year of existence?

In the short period that it has been in existence the League has made wonderful progress, which is a sure indication of the spirit of the times and the general awakening throughout the country of an interest in and appreciation of the best in drama. This interest is especially keen and marked throughout the West and Middle West. Clubs, individuals, schools, colleges and libraries are interested in the new idea and adopt the League's plan of work.

The idea was presented at most of the Chautauquas last summer and at many of the Teachers' Institutes, meeting with ready response. In this way the membership has spread over an incredibly wide area, and the League now has members in 44 States, in England and in Canada. It has an affiliated membership through the clubs belonging to it of over fifty thousand, which means already a wide circle of influence.

There are 20 libraries regularly affiliated and paying dues, 157 clubs and 43 universities or colleges belonging as such. The Bulletins are regularly posted in all clubs, in all the libraries and in 10 universities, as well as in many drug stores and restaurants, giving wide publicity to League plays.

Centers are already formed in Boston, Philadelphia, Denver, Brooklyn, Louisville, Jackson, Grand Rapids, Ann Arbor, Wisconsin, and are being formed in New York City, in Troy, Kansas City, Pittsburgh, Cincinnati, St. Louis, San Francisco, Boise, Salt Lake City, Duluth, Detroit, Superior, St. Cloud, and many smaller towns.

The very best expert authorities in the country are giving their services to the work, and the League has the benefit of the advice of those most qualified to advance the movement.

In Chicago, the League has a definitely organized theatre-attending membership. Its bulletins of worthy plays are issued to 8,500. So uniformly does this clientele respond to the call of the bulletin that managers have testified to the absolutely appreciable influence exerted by the bulletins. More than one manager has admitted that within 48 hours of the time the bulletins are in the mails, the effect can be noticed at the box office.

In at least 25 clubs the League has helped to start courses in drama study for the year. It has organized and is conducting a Junior Branch for the purpose of helping children in a study of the drama.

The greatest possibility for usefulness for the new movement as a national organization is in the direction of the one-night stands. Here it is perfectly feasible for the League to establish chains of towns, operating through League control, where the managers will unite to bring to the

towns, on the strength of the League's effort, productions which they would heretofore have considered impossible. Moreover, the National League Committee can obtain advance information regarding plays, production and acting, and notify the towns in its circuit, whether or not they consider them worthy of support. In this way the League center in a one-night stand can eventually control the situation and induce the local manager to supply the best by means of organized support.

THE MOVEMENT FOR INCREASING THE EFFICIENCY OF SCHOOL AND COLLEGE ENGLISH.

PROFESSOR JAMES FLEMING HOSIC, HEAD OF THE DEPARTMENT OF ENGLISH,
CHICAGO TEACHERS COLLEGE.

The Chairman of this English section is himself largely responsible for the Movement of which I am to speak. It became his duty to appoint a committee of the English Round Table of the National Educational Association at Boston in 1910 to present to the College Entrance Examination Board the views of high-school teachers of English. There was a distinctly insurgent feeling on the part of several who were present at the Round Table, and this feeling took shape in the form of the motion just indicated. Mr. Miller appointed the committee, and remembering his old associations in Chicago, insisted upon my acting as its chairman. That is how I happen to be here.

The N. E. A. committee organized so as to cover the whole country, and proceeded to canvas the sentiment of English teachers as to the Uniform Entrance Requirements in English and the examinations set upon them. The plan of work was reported to the N. E. A. at San Francisco in 1911 and will be found in the report of the English Round Table. The results of the investigation as far as obtained at that time were printed in the February number of the English Journal, and being accessible there need not be detailed at this time. It is sufficient to say that many find the Requirements hampering, especially in the emphasis placed upon literature at the expense of composition, particularly oral composition and writing of the practical sort.

In accordance with its instructions the committee presented its findings to the Conference on Uniform Entrance Requirements at its last meeting, with considerable effect. The Conference showed a disposition to liberalize the requirements. Literature was separated from composition, the book list was enlarged, and provision was made for examination, by colleges so desiring, without the necessity of a prescribed list.

The committee is continuing its labors and hopes to issue a printed report. Meanwhile another movement of more far-reaching importance has sprung up. Its connection with the first I will attempt to explain.

It became apparent to the members of the N. E. A. committee that the English teachers of the country are very poorly organized. They are out of touch with each other and lack any sort of unanimity. A resolution was therefore introduced at the San Francisco meeting of the Round Table to the effect that a national society of English teachers be organized. It was adopted unanimously and the Committee on Entrance Requirements asked to undertake the work. Accordingly a meeting was planned and held in Chicago, December first and second, 1911.

The new organization was named the National Council of Teachers of English. It was so planned as to be composed largely of delegates from local associations affiliated with it. Eleven such associations are now actually united in this way and the total affiliated membership reaches nearly four thousand. Meanwhile individual members have come in from all the states but four. The organization has an official organ, the English Journal, the first number of which appeared in January, 1912, and it is setting a number of committees at work, notably one on the organization of the high-school course.

This brief summary may well conclude with an outline of the work which the National Council has before it. For convenience the items may be set out as follows:

1. The Council will seek to unify the English teachers of the country.
2. It will attempt to co-operate with other agencies in improving the conditions which surround English work. Particularly in the case of composition it is already assisting Professor Hopkins and his associates in their most worthy task of lightening the burdens of theme work. It will also have something to do with liberating the high schools from the dominance of ultra-conservative colleges. And it will present to the country the need of vastly increased material equipment and facilities for teaching literature and composition. English is really a laboratory subject without laboratory arrangements.
3. It will foster and guide experimental methods in dealing with school problems. We have now little more than a body of unsifted tradition. We ought to have scientific data and it is possible to secure such. The Council has already appointed a committee on pedagogical investigation.
4. The Council will strive to maintain the highest ideals of efficiency for English teaching. By disseminating information as to what has been done, it will seek to influence all to their best and truest endeavors. In a country where the teaching force shifts with such astounding rapidity as it does in ours, this service alone would justify the existence of such an agency.

PRESENT STATUS OF THE ENGLISH TEACHER.

PROFESSOR E. M. HOPKINS, CHAIRMAN OF THE NATIONAL COMMITTEE ON
ENGLISH COMPOSITION TEACHING, UNIVERSITY OF KANSAS.

The general inquiry into the conditions of English composition teaching and teachers, which has now been in progress for two years, was undertaken to establish and make public certain facts well known to all English teachers but by others than English teachers commonly disbelieved or denied. To consider the question whether English teachers are more unfortunate than others was not in the beginning a part of the plan of investigation; but it was soon forced in by the attitude and the assertions of certain supervisors and administrators of teaching. One of these, for instance, brought the charge of untruthfulness against an English teacher of more than twenty years' experience who had cited some of the results of that experience, and another called that teacher a crank on the same general subject; although neither of these gentlemen had anything more convincing than a sublime self-confidence to oppose to the experience of the teacher. Other teachers who have spoken of being overworked have sometimes been accused of "shirking" by their fellow-laborers, some of whom no doubt believed themselves equally tasked; and some school officials have endeavored to dismiss the entire matter with the pronouncement that it was entirely irrelevant to the real needs of English teaching, and of no practical importance whatever.

Such statements as these merely emphasized the necessity of the work undertaken, and broadened its scope to include a comparison of the demands and the equipment of other school subjects and teachers with those of English. The result of the first part of the inquiry were made public a year ago, and have been republished in this state through the courtesy of your State Superintendent of Public Instruction. In substance they show, as you have already observed, not only that the average amount of labor regularly assigned to an English composition teacher is about two and a half times as great as he can perform with even average efficiency, but that it is often more than three times the amount assigned to any other teacher of any other subject, and seems to average almost twice as much.

Since the first publication of their report, which is now in its ninth edition and has totaled almost fifteen thousand copies, the efforts of the committee in charge have been directed to the securing of publicity and consequent confirmation and correction, and to ascertaining the relative cost of the teaching of English and of other subjects. This work is still in progress and the results are assuming considerable definiteness and interest.

Of the statements of the original report the only criticism received is that they are too conservative, that they understate existing evils; otherwise confirmation is fairly complete and conclusive. The data of the first

report were necessarily furnished chiefly by English teachers themselves; those now coming in are sent mostly by superintendents and principals, whose evidence as to the relative labor and cost of English and other subjects is of course wholly impartial. But no comparison is necessary to establish the fact that English teachers are hopelessly overworked, often to an extent that is almost criminal considered with regard either to the teacher's health or to the efficiency of the teacher's work; and comparison does not show that other teachers are not overworked, but only that they are not subject to such intolerable abuses as English teachers often endure.

The only tabulations yet made of the replies to the committee's second questionnaire recently sent out have had to do solely with cost, the cost of reaching and equipment for English and for other secondary school subjects. The general character of the results thus far obtained, subject to later correction, may be summarized as follows:

Average annual teaching cost, each pupil:

English.....	a little more than \$7.00.
Mathematics.....	about 10 per cent more than English.
Latin.....	about 40 per cent more than English.
German.....	about 25 per cent more than English.
History.....	a fraction below English.
Science.....	about 100 per cent more than English.

Relative percentage of students in each subject:

English	100	German	about 30
Mathematics	about .80	History	about 65
Latin	about 40	Science	about 50

Relative total teaching cost of each subject in percentages:

English	100	German	37.5
Mathematics	88	History	65
Latin	56	Science	100

Average number of pupils to a teacher in each subject:

English	about 130	German	86
Mathematics	115	History	130
Latin	96	Science	77

Statistics as to the relative cost of equipment, including books, have been incompletely tabulated for English and Science only, and indicate that the annual cost of English equipment (books) for each pupil is about 25 cents, while for Science pupils it is about ten times as much. The total

annual cost of English equipment is to that of Science approximately as 100 to 220. The total annual cost of English teaching plus English equipment is to the same total cost of Science approximately as 100 is to 113.

From the preceding figures it appears that if English teaching were made as efficient as that of Science by a corresponding reduction in the number of pupils assigned to each instructor, the total cost of English teaching and equipment would then exceed that of Science by 50 per cent, but the annual pro rata cost for each pupil in English would still be much less than that of Science, and not very much more than the present corresponding cost, for each pupil in Latin; approximating \$10 for Latin, \$12 for English, and \$16 for Science.

It seems already certain that the problem of English teaching resolves itself into the question: Shall the investment be increased, shall the workman be sacrificed, or shall the work be spoiled? It is said in reply that the first is impossible, and that we must escape the horns of the dilemma remaining by "improvement of method." But almost every suggestion as to improvement of method merely points the way to some part of a familiar circle that has been fruitlessly trodden ever since laboratory practice became a part of English teaching; and the utter futility of such suggestions will usually appear if they are subjected to the test of the multiplication table; if the necessary time for each pupil be multiplied by the number of pupils, and the result divided by the number of days in a week. Of if the process be reversed, and the number of fair working hours for the teacher be divided by the number of pupils, the relative time for each pupil becomes so small as to be absurd. Still every such suggestion should of course, receive consideration; and if it offers any hope of relief whatever, it should be subjected to experimental tests.

Suggestions that fail to endure well the test of the multiplication table are that there should be more oral and less written work in composition practice, and that the analogy of the newspaper laboratory should be observed in the composition class. Oral training takes about as much time as written practice; and no city editor would undertake to train a hundred and twenty-five or thirty cub reporters at once. The suggestion that pupils should be trained to criticise themselves is admirable for some pupils; but it fails entirely to reach a considerable number who presumably are in the greatest need of assistance. The suggestion that all other teachers should help the English teachers by teaching English incidentally in connection with all other subjects, is also admirable; and has already been subjected to experimental tests; but thus far it seems to have invariably failed because the other teachers were themselves already overworked, or because they were incompetent, or because they were unwilling. This suggestion may yet prove a successful one, since proper conditions may be established; but to establish them is likely to increase cost and so lead back to the forbidden alternative.

As between underteaching and overworking there is, of course, only one recommendation to be made; and it is common for administrators and others to recommend the former. But this leaves teachers still subject to public criticism for inefficiency, and even those teachers of established reputation, who might most safely slight their work, dislike to do so because of devotion to the interests of their pupils; and some positively refuse to do so, until mind and body rebel and force them to leave the field. They are perhaps not to be commended for the sacrifice they have made; but what is to be said of those who may be responsible for placing them under the necessity of choosing between physical or professional failure, and who then perhaps characterize the situation thus created as unimportant, or irrelevant to the actual needs of English teaching.

The committee in charge of this investigation has often been asked what is to be done in view of the facts that have been established. All that can be done by teachers themselves is to aid in securing such complete publicity for these facts that they can be forced upon the attention of all educators and of the public generally, and to aid in carrying on such experiments as are necessary to answer supplementary questions of all sorts, and in making the results public. This can best be done through organizations, such as the various state associations, and in affiliation with the recently established National Council of Teachers of English, which has already gone energetically to work at this particular task. One thing that can be done at this very meeting is to endorse the subjoined resolutions in the form in which they have already been approved by the National Council and by the Modern Language Association.

After publicity of all facts ascertained and to be ascertained has been secured, all that individuals can do is to press these facts upon the attention of individuals as there is need or opportunity; to the end that there may be either more help for teaching English or less criticism of the efficiency of that teaching. If there is not to be had more money for investment in English, then either present inadequate results must be accepted, or we must go backward even perhaps to the point of abolishing required laboratory training in English expression, and making the study of the subject purely theoretical as it used to be. That question can be finally answered only by the public, not by either teachers or supervisors of teaching.

The present demand of the public seems to be that English shall be efficiently taught; but as not enough straw is furnished for the required number of bricks, the bricks are not forthcoming. Other laboratory subjects that are efficiently taught cost money, and a great deal of it, in proportion to the number of pupils. English teachers, like all other teachers, furnish much more service than they are paid for; it is not in general the practice for other public servants paid from public funds, to work over time, and hours of service are sometimes limited by statute; but investigation finds English teachers, even where the legal limit is eight hours, de-

voting often sixteen hours a day to a vain attempt to perform the duties imposed upon them, and then after all, perhaps subjected to criticism for inefficiency. Incidentally it may be said that this inefficiency might be found to be no greater than that of teachers of some other subjects if the results were subjected to the same tests in each instance; overwork and over time are not confined to English teachers exclusively, though English teachers assuredly have far more than their share.

Everything that has been established leads ultimately to this basic question: What is it worth as an investment to have English efficiently taught—or even as efficiently taught as are other laboratory subjects? The pro rata cost for each pupil in English may under improved conditions be no more than the present cost of Science; probably less. But only about half the pupils take Science, while almost all of them take English; hence the total cost of English under improved conditions would probably be more than that of Science. If the public decides that Science is more necessary than English, or that the greater demand for English is a sufficient reason for not meeting the demand because of the greater number of teachers needed, English teachers will have to accept the decision; but they will not have to accept the responsibility either for the decision or for the continuance or the increase of present evils. They can make it impossible for any executive or school board to ignore present conditions, wilfully or otherwise, or for him to excuse on the plea of ignorance such a culpable economic waste as an English class of the present average size, or such an enormity as an English class of the present average size, or such an enormity as an English class of from 150 to 250 members; and can ensure that the blame for resulting inefficiency or for the break-down of the teacher is placed where it belongs.

The following resolutions, already adopted by the National Council of Teachers of English and the Modern Language Association of America, are herewith offered for approval by this body. The last resolution refers especially to the final report of the committee, which should be made to the Central Division of the Modern Language Association at its next meeting in December of this year.

RESOLUTIONS.

“We endorse the work of the Committee on English Composition Teaching of the English Section of the Central Division of the Modern Language Association. We commend the report of that committee to the attention of every English teacher and of every school officer; and request the cooperation of educational organizations, institutions, state officers, and the press, in securing for it the utmost publicity.

"We request the attention of the United States Department of Education and of the Carnegie Foundation for the Advancement of Teaching to the report of the Committee on English Composition Teaching, with reference to possible publication and general distribution.

(The resolutions were adopted.)

The present membership of the committee is as follows:

F. G. Hubbard,
Univ. of Wisconsin.

A. B. Noble,
Iowa State College.

V. C. Coulter,
Warrensburg Normal School, Miss-
ouri.

J. M. Thomas,
Univ. of Minnesota.

H. G. Paul,
Univ. of Illinois.

E. M. Hopkins, Chairman,
Univ. of Kansas.

HISTORY CONFERENCE

THE HISTORY OF WORKMEN'S COMPENSATION LEGISLA- TION.

PROFESSOR E. H. RYDER, MICHIGAN AGRICULTURAL COLLEGE.

Of the very remarkable awakening of interest in the social sciences in recent years, the subject of government, or political science, comes in for a very liberal share. The rapid changes in thought on matters pertaining to government present constantly new fields of endeavor for teachers of history and government in our high schools and colleges. One is surprised both at the multitude of topics in this field engrossing the attention of the American citizen today and at the universality with which the citizens are thinking upon such topics as, initiative and referendum, primary laws, child labor, woman suffrage, and many others. A great educational campaign in matters of government is on. The people are studying these various problems vigorously—problems that involve profound economic and social considerations,—and it is up to the schools and colleges to perform a worthy service in these fields as a part of public education.

This paper assumes to deal with certain phases of one of our more recent governmental problems, which involves in a marked degree the afore-said social relationships. When the legislature of Michigan authorized the Governor of the State to appoint a commission to investigate the existing

conditions and recommend a Workmen's Compensation measure, it originated a procedure fraught with momentous possibilities to the Commonwealth of Michigan.

This legislation is of great consequence because it marks a revolution in our method of dealing with the rights of the man injured in the course of industrial employment. By this procedure we abandon certain principles adhered to throughout our past and substitute therefore a new principle. At least, a principle new to the United States and one of quite recent recognition in other countries.

In order that we may emphasize the contrast between the new and the old, let us trace briefly the essential facts pertaining to the treatment of workmen in case of injury, as they are to be found in the English practices, from which the United States has inherited its procedure. English views have been built up since the days of feudalism, when the master owed no recognition to his servant, whatever. Since the breakdown of the medieval regime, an occasional statute refers to responsibility on the part of the employer for negligence on his part in the treatment of his employee. Blackstone, in his classic commentaries of the eighteenth century, pay little reference to the matter of rights in case of injury. It remains for the nineteenth century to witness the development of certain very definite, clear cut principles in the common law which operate as between employer and employee in case of accident.

The explanation for the absence of any earlier modification of the regulations along these lines is so apparent as to need merely the suggestion. Industrial pursuit, simple in form, limited to the home and under isolated conditions, provoked no necessity for such regulations. It is the Industrial Revolution, bringing into use machines of many kinds, bringing men into close and interdependent relationships, that has brought not only its large quota of accidents—totally unknown before—but also has forced upon society the consideration of the matter of responsibility for these accidents. Herein we find reasons for new rules.

The conception of the common law of England that the employer and employee stand on equal footing, was subjected to modification. The common law recognized the right to compensation through the courts of one injured through the carelessness or criminal intent of another. Also, the principal is responsible for the acts of his agent. Accordingly, the person injured either through the carelessness of the principal or the agent would be entitled to compensation. But no, this same law says that if the victim of accident himself was in any way lacking in precaution, this fact may prevent recovery of damages either wholly or in part. This principal we recognize under the familiar expression of "contributory negligence."

At the very dawn of specialized industry, an English Chief Justice, Lord Abinger laid down another principle which became a part of the English law, known as the "*fellow servant*" rule, which meant that if a

laborer suffered injury through a fellow workman he had no action in law against his employer. This decision of Lord Abinger came over into American law and prevailed in all our states, and, although modified in recent years as to certain hazardous occupations, is still in existence. There can be no doubt that the able English jurist had domestic service or simple agricultural service in mind when he laid down this celebrated principle, and, indeed, in that period and to-day, when industry is still of that nature the law is ample, but under the highly complicated organization of industry now generally existent, a workman cannot personally protect himself against the carelessness or ignorance of a fellow workman whom he may not even know, much less exercise effective restraint over. For instance consider the peril to which a railroad engineer is subjected by his fellow workman, the switchman.

Another rule, originally just, is rendered unjust by the complexity of modern industry, viz. the "assumption of risk." By the basic law an employee cannot be held liable for injury incurred from a danger of which he was aware at the time of engaging in labor. If unwilling to assume the risk to life and limb, he possessed the right to quit. This was all very well under hand labor and individual industry. But how about the workman in present day industry, who must incur the hazards of manipulating railway cars under dangerous conditions, or ascend the framework of modern sky scrapers to rivet the structure of steel. Danger is imminent constantly, unavoidably. To say he may quit is futile. Society demands these functions; workmen will accept the employment because they must work. But he receives higher wages, says one. In some cases he does, in others he does not, and this difference in wage is deserved as recompense for braving the dangers of certain employments and not for the accidents to which they are subject.

In the face of these common law rules the only recourse which the disabled workman has is to become the subject of charity or resort to the courts, where uncertainty confronts him. He must engage an attorney at his own expense, to contest the case in court, where the employer, possessed of greater financial resources and prestige, meets him with able legal representatives. The outcome is uncertain. Justice may or may not triumph. If his injury is attributable in any degree to his own carelessness, or is incident to the hazards of the industry, it is useless for him to hope for compensation. At best he may find himself, after an expenditure of time and money, in possession of compensation wrested from the employer, a considerable portion of which he must use to meet the expense incurred.

The embodiment of the aforesaid principles in English and American law and practice dates from the fourth decade of the last century. Coincident with this development of English law came a decision in the Prussian court, 1838, which evidently opened the way for the future leadership of Germany in the adoption of a new principle. This new rule was recognized

in 1871 for the Empire and has become, since 1884, what is probably the most elaborate and progressive system of industrial insurance—including sickness, accident and old age pensions—in vogue in the world. The principle underlying these laws is this—that the injured workman shall receive compensation—quickly and surely—regardless of the responsibility for the accident. The significance of this arrangement is immediately apparent. It relieves the workman of the expense, the uncertainty, and the necessity of proving neglect, in order to obtain relief. By the terms of the state laws the burden of industrial misfortune is removed from the shoulders of the workmen and is distributed among the public as one of the costs of production.

The English law took the other course, adhering to the common law principle and for forty years England resisted all efforts toward reform. Finally, in 1880, Parliament departed from her policy by an act which removed some of the defenses to which the employer had been accustomed. In other words, the attempt was made to solve the problem by increasing the liability of the employer. The results were disastrous. It threw upon the courts the burden of locating the blame for accident—an impossible task—and it becomes the source of great expense both to the employer and employee. Mr. Asquith declared this law a “scandal and a reproach to the legislature.”

It was this law which became the model for many American statutes with the same unwelcome results in the way of litigation, with its uncertain outcome, attendant expense, and necessity for public charity.

It was under these conditions that the plan of indemnity insurance arose whereby companies, organized for the purpose, assumed for the employer, upon payment of a periodic premium, the risks for accidents in the particular business. This was decidedly advantageous to the employer, but it intensified the already existent troubles of the employee in that payments were resisted by these companies even more than by employers, through technicalities of the law. As a result a small part of the premium paid by the employer ever found its way to the employee or his dependents.

For illustration, the recent commission in New York reports that ten companies in that state in a period of ten years received \$23,523,585 as premiums. Of this sum they paid to employees \$8,559,795, or 36.34 per cent of the total. The same report shows that in 1907 three hundred twenty-seven employers paid approximately for industrial compensation \$192,000, of which injured employees and their dependents received \$80,000. Similar facts can be given for any of the states where large industries are located.

The next mile stone in the progress of the English law is in the year 1897, when Parliament, under the leadership of Joseph Chamberlain, enacted the statute which abandoned the common law principle and adopted the payment by employers for all injuries not due to the injured's own act or de-

fault. Thus England broke away from her time honored and thoroughly established policy. But England could not make the change complete at one move; she limited the application of the law to an enumerated list of dangerous trades—leaving accidents in other trades under the old law, but, this was a recognition of the idea, the German idea, that every trade has risks, the bulk of which are unavoidable, and should be paid for by the public. It only remained for England to experience another campaign, just prior to 1906, for Parliament to extend the principle to all industries, and by still more recent legislation England has adopted a plan of insurance, modelled after the German, including old age pensions and sick benefits, in addition to accident insurance. These policies on the part of Germany and England were not without their influence upon other peoples, for other countries have been quick to adopt the new policy. During a period of twenty years, twenty countries—including all the important industrial states of Europe except Switzerland—have abandoned the old and accepted the new: Spain and South Australia, 1900; Sweden, Netherlands and Greece, 1901; Luxemburg and British Columbia, 1902; Belgium and Italy, 1903; since 1903 four constituents of the British Empire—Cape Colony, Queensland, Quebec and New Zealand—besides Hungary and Russia, have declared for the new plan of compensation.

The reforms in the mother country have not been without their effects in our own land. Poverty has not stalked so openly in public here. Liberal contributions from phenomenally prosperous private individuals and a generous public have alleviated much of our grossest suffering, so that the demands for similar legislation have not been so imperative with us, but the presence of unrelieved poverty, together with a rapidly expanding industrial system, on the one hand, combined with our sense of justice in the sight of a constantly increasing number of vast industrial fortunes, on the other, is arousing our interest in the reform. We have followed England's footsteps exactly and attempted to meet the problem by laws increasing the responsibility of the employer. These laws are proving unsatisfactory to us as they have proved to the English, because they rest on the idea of negligence of some kind on the part of the employer. As in case of England's experience, this added a heavy burden to the courts, entailed a large expense to employee and employer, and permitted a very large number of injuries to be uncompensated, because they were unavoidable accidents for which neither the employer nor the employee are in any wise responsible.

At length we, too, have fallen into line, with the result that in 1911 the legislatures of six states—California, Kansas, New Hampshire, New Jersey, Washington and Ohio—passed laws based upon this new principle. Similar laws were enacted by New York, Oregon and the Federal Government prior to 1911.

It may be of interest to note here that the Federal Congress has a Workman's Compensation measure before it at the present time. This

measure is modelled after the state laws, embodying what are considered the best features of such laws. Congress has already legislated in this field. The first act—1906—was set aside by the courts because not limited in its application to Federal jurisdiction. The second act—1908—has been sustained by the courts but is restricted in its application to common carrier employees while the act at present under contemplation will extend to all employees subject to the authority of the Federal government.

Legislation so revolutionary and involving so many far reaching economic and social considerations, as well as political, naturally is assailed in the courts from every possible constitutional point of attack. Very naturally our system of written constitutions, with our established principles of interpretation, aid very materially the opposition to the embodiment of this new principle in our statutes. This phase is producing very lively discussion at present as to whether a court shall resist the operation of a law prompted by a prevailing public sentiment and enacted to relieve social injustice. Ex-president Roosevelt, aroused by the act of the court of appeals in New York, in declaring the Workmen's Compensation Act of that state unconstitutional, has focused public attention upon the subject as a campaign issue. The judgment of the New York court need not be taken as conclusive, however, for recent decisions of the U. S. Supreme Court and the highest tribunals of Wisconsin and Washington, have been favorable to the validity of similar laws. As it is not the province of this paper to enter into the legal controversies or an examination of the economic and social justification of such legislation, interesting as these may be, but rather to confine our attention to an account of the growth of the demand for the changes, we shall conclude with a brief analysis of the salient features of such laws.

These laws may be divided into three groups or systems, often-times denominated as the "German System," "English System," and "State System," a distinction based upon the method employed of securing to the employe his compensation. Under the German System, the Government supervises insurance associations, to one of which every employer must belong, which organizations fix the premium rates, prescribe safety devices and indemnify the injured employee. Austria, Luxemburg, Italy and Hungary have modelled their laws after this plan. Several United States laws approach this, in that they permit the employers to band themselves together in Mutual Insurance Companies.

The State System requires the employer to pay to the state a premium based upon his pay roll and the state pays the workmen from these funds. Norway, the Netherlands and the States of Ohio and Washington have adopted this plan.

The English System, to which more states have subscribed, prescribes the amount of compensation but leaves the employer to his own method of meeting his obligation.

In all cases the amount of compensation is based upon the seriousness

of the injury and the amount of wages received by the injured. The state fixes a schedule in the law, or authorizes an administrative board to do so, graduated on the degree of injury according as it results in death, permanent disability or temporary disability, the payments ranging from 50 to 100 per cent of the wages for a specified length of time with payments in weekly or periodic installments.

A very cursory examination of these laws reveals that our legislatures are far from the model law. The individual features must be subjected to use, modified and adapted to the purposes for which they are intended. Eventually we shall see the triumph of a better principle whereby to meet the problems arising from this particular phase of industrial activity,—a principle which shall meet the demands for social justice on the one hand and satisfy the claims for the economic rights of capital on the other.

HISTORY IN THE HIGH SHOOOL.

MISS DAISY CAROLINE OLNEY, PORT HURON.

A word of explanation is due regarding the scope of my subject. When the request came for me to prepare a paper on History I was trying to decide who our most most representative American author might be. I was too busy to turn my attention to History so sent in the very general subject of "History in the High School" in hopes that in writing my paper I might stay within bounds better than a certain clergyman did. It was one Sunday during the early days of a young clergyman's career. He had in the presence of his congregation and the bishop delivered as he thought a very creditable sermon. At the close of the service he grasped the hand of the bishop and asked, "Well, what did you think of my sermon?" The bishop replied, "Your sermon, sir, was fair, but if your text had had the measles your sermon wouldn't have caught them."

Why do we teach History? Surely you will all agree with me when I say we, the teachers of the American youth, have in our minds a higher conception of our office than we can ever accomplish. We observe so much that we ought to realize and do not. We can see such a variety of reasons why we should shout our semi-annual cry of "On with History" a few of which are the following—to give pleasure, to arouse interest, to make the child think—and think logically, to give adequate expression to his thoughts both orally and in writing and to give the child an understanding of the society in which he lives. To accomplish any one of these would give satisfaction; to accomplish several, would be extraordinary; to attain *all* of these would be a miracle. We *expect* the first—we *desire* the second—if not at present, we trust and hope that the seed we sow now, at least sprouts

and takes root and, hence, may sometime in the future live to unfold at least one frail little leaf. The miracle needs no remarks, since its attainment rests above and beyond even this age of marvelous accomplishment.

A second question arises, "Why do the pupils in the High School elect History?" Again a variety of reasons. First, it is required in the curriculum; second, it is not required, but it is given in the course of study; third, it is advised by some member of the faculty; fourth, it is interesting and last, but probably first it is considered a "snap," an "easy-berth."

I have now stated, as I see it, the standpoint of the teacher in presenting History and the reasons for the pupil electing History. Or we have given: An alive, enthusiastic teacher, brimming over with knowledge of the past; middle and modern ages with his variety of results to be obtained, imparting this knowledge to the stupid, the brilliant and the average child with his manifold reasons for his appearance in the class room. To prove: That the teacher may gain satisfaction. I can hear you exclaim—"What Blindness! Your premise is wrong. We are not alive, enthusiastic teachers." I know that, but is there not always a tendency to live up to the highest of our capabilities if we realize that it is expected of us? For some reason I can not state conditions otherwise. I *must say* alive and enthusiastic, even though I recognize the flaw. We must be alive,—the live-wire kind;—we must be enthusiastic. The presentation of any subject to High School pupils needs life. History demands it. How weak our proposition would be, if we had to consider the languid teacher and the indifferent pupil. I must give preference to the teacher as the responsibility rests with her and trust her to recognize and correct her faults, and then to cope with the problem of presentation to the child in order to gain satisfaction.

I can not give you an ideal method. In fact we might say there is no ideal method. What each teacher uses in conducting her classes is a combination of methods—some, copied from those teachers whom we have approved of and admired, others learned by experience. Hence, what I have to offer to you today is not a proof of the proposition, but merely a statement of methods acquired by observation and experience, which I use in the class room. I realize that it has its defects and court your criticism of them. I leave it to you to recognize merit, if there be any. I know there are some here who can not fault-find without finding fault with themselves for I plead guilty of having made them my models.

My purpose in teaching History has been summed up at the beginning, hence, I need to state now only the aids used. They are good preparation, careful assignment of lessons, use of clear outline, use of maps and pictures, outside reading, note books, current events, imagination and encouragement. This may sound and does look like a prodigious "bill of fare," but it is not I even want to signify as Milton says, "More is meant than meets the ear."

Good preparation—that hardly sounds right to me in the positive degree. Each teacher really needs—the best—best preparation. Few of us, how-

ever, possess it in the superlative, thus my expression—good. We can each attain good—and aspire for the best. Good preparation is essential. Before facing the class I feel the necessity of knowing my subject; of making myself familiar not only with what is in the text used, but also what other texts may have to say on the same subject; of connecting facts with what has gone before and of not losing sight of the fact that today's events depend on the events of yesterday. Every teacher must consider preparation carefully. It creates an atmosphere, an intention, and an ambition which the pupil recognizes. It gives confidence in one's self, a commendable frankness between teacher and student and frees the teacher from being a "slave to the text."

The next aid, the assignment of lessons, is of utmost importance. At the beginning of each class hour ten, fifteen or twenty minutes if necessary should be devoted to the assignment and careful explanation of the next day's lesson. For example—take any person with a moderate interest in classical music. Play for them any selection new to them. They may listen out of politeness though bored to extinction. But first tell them the story which the music exemplifies and then play the selection. It will strike some responsive chord, arouse the interest—and create a desire to know more—to hear more. Does not the same principle apply in History? If the child is told something of the advance, the difficult parts explained and questions answered will not he since he must give attention, have received a definite impression? Will not this create a desire to know more of the subject? Some say with this method the pupils will depend on what has been told them and bluff the rest. On this account they advocate the "to the end of the chapter" method. The former plan, however, emphasizes the important parts, forces the explanation upon those who would not take the trouble to ask questions, calls attention to points that are to be looked up, inculcates a desire to know more of the subject and, by making clear all points, saves time to the pupil and the teacher which Heaven knows they both need. To the pupil, because the explanation on one point may clear up the whole lesson, where a tangle at the beginning might cause him to throw aside his History and turn his mind to *one* of the *many other* subjects which claim his attention. To the teacher, because it saves the same explanation over and over and over to first one pupil and then another. Not that I mean to discourage questions. I intend, by previous explanation to encourage them, but questions of a different nature—which show a desire to investigate, to combine and to organize,—not the superficial questions, the answers of which when repeated the eleventh time are extremely tiresome.

The third aid is the use of an outline—not one already prepared, but an impromptu outline. The lesson has been difficult in spite of the previous explanation and the children are perplexed. Take for example the period of Louis XIV—his wars—they are one confused mass to them—so many details—so many countries involved—a Triple Alliance, Grand Alliances, the

fickle changing of the mind and withdrawal from one union to join another. Is it any wonder they come with frowns and complaints? Are we to hold them responsible? By no means. Rather let the teacher and pupil work out the lesson together. In a case like this I have the work outlined on the board, as dictated by the pupils,—my part in the transaction being merely to advise and direct where necessary. This gives them a bird's eye view of the situation. After which they are ready to begin the recitation, and to fill in the gaps. Some may say "What a loss of time," but experience has proved it to be a very profitable expenditure of time.

One of the unfortunate requirements in the History work is the assignment of short lessons. They must be short to allow time for discussion in the class. Hence for the elimination of the "snap course" there must be something besides the regular class work. This is found in outside reading. It is not interesting to the student, but it must be *made* interesting. To accomplish this the reading must be done from an inner desire—and it rests with the teacher to create this. She must imagine herself a reckless, irresponsible boy or shallow, sentimental girl—if necessary to get the child's view point and work from that. She must create a bond of sympathy and make the reading a pleasure. This is the aim. *Too often* the result is that we fail and the pupils feel themselves martyrs to the cause." In order to learn what the pupils really like I have tried the plan of allowing each one to read on any historical subject in which he is interested. It is impossible to carry this out at all times, but with this as a basis, something may be accomplished. But how to gain satisfaction. To feel that the work has really been done, it must be outlined and handed in. This is the cause of much unfairness I acknowledge. I have tried a plan by which one day is set aside for the results of the outside reading. Each pupil tells to the class one incident from what he has read. He is marked on the outline of the *entire* reading which he hands in, as well as the interest and delivery of the incident which he tells in class. The subjects chosen are usually very good and reveal in various ways the child's development.

"Seeing is believing" fits the study of History. Too often the pupil reads the text hurriedly, rushes to class with a vague idea of what is in it, and a dimmer idea of where the scene is located. If he should remember the name of the country, province or city—nine times out of ten he couldn't locate it even if his life depended on it. You can see him, can't you, standing before the map on a still hunt for Greece? His glance roams the length and breadth of three continents in vain and for the moment he becomes a subject of ridicule to his classmates, who, put in his place, would do worse rather than better. Maps are my hobby—to be used on the slightest provocation. The pupil must be put through this course, to prevent the Atlantic from changing places with the Pacific, Australia from staking out a claim in South America and the Danube from emptying its waters into the Baltic—or what is worse, to make the existence of Asia Minor and Syria at

all possible. The use of maps—of actually seeing the location of places can not be emphasized too much. A word might also be said about the use of pictures and postal cards in connection with talks by local men and women who have traveled. We have tried this and have been fortunate in having talks on England, Scotland, France, Italy and Greece with the post cards to illustrate and make real the scenes described.

But in addition to the real there must be the imaginative side. Some teachers do not approve of a play of the imagination in connection with facts, but I approve of it and furthermore encourage it at all times. History furnishes us the facts. Each pupil must paint for himself his own background, judge his own perspective and furnish the proper blending of lights and shadows—or his interpretation of the actions of the figures in the foreground is entirely awry. Consequently I encourage pupils to read every good historical novel which has any bearing on the lessons.

Now I have said much that I intended to say, yet I have left unsaid much that I wanted to say. I will speak briefly of the other aids. The note books in use we compiled, chose the maps we needed and added blank sheets, thus forming a combined map and outline book. The outline is dictated to the class—the map work assigned from time to time. Of course the good, bad and indifferent work appears on the day of reckoning. Some pupils however show a decided artistic ability and others evince a desire to compete with them.

Last of all—that which makes us all cheerful—a word of praise where praise is due. We are always too quick to censure—too slow to commend.

This is something concerning the methods I use in my attempt to teach History. Fortunately the Superintendents have not yet perfected the micrometer with which they intend to measure the efficiency of the teacher by the results produced.

THE AIM OF HISTORY TEACHING.

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The aim of the teacher of history will be determined in no small measure by the answers which will be returned to the following questions:—(1) What is history? and (2) Why should young men and young women study history? Therefore, without any preliminary analysis, your attention will be directed to a brief consideration of these two interrelated matters.

True history, real history, scientific history, is an interesting and often an inspiring record of the never ceasing struggle of conflicting races, classes, interests and sections. History is a chart on which is traced the zigzag way in which the human race has slowly and often painfully adjusted itself to new and ever-changing physical and social environments. History is inspir-

ing because the student can discern through this maze of acting and reacting forces, the gradual and tortuous progress of the masses upward toward equality of opportunity. In the past we have as a rule considered history to be a mere tale of what has happened and when it has happened. And still more unfortunately, the what-has-happened was limited so as to include only the more spectacular and personal events,—the sanguinary episodes of past epochs and the feats of individual prowess and debauchery. A somewhat indefinite composite of the chronology of wars, reigns, plagues and intrigues and of the biography of the reputed great, the near-great or the very wicked was named history, and was then triumphantly presented to the ardent youth of the land as an ambition-creating subject.

However valuable this ideal of history may have been in the eighteenth century, it is of little value in the complex industrial civilization of the first quarter of the twentieth century. Today, history should be, as Lecky declared, a study of cause and effect. History—real, vital, living history—is the social mechanics of the past; sociology is the social mechanics of the present. History is a science related to the great and growing family of the social sciences. It is really of little value to laboriously catalog events or so-called historical “facts,”—to string a variety of dissimilar occurrences together on the thread of chronology as one would string variegated beads. The writers, teachers and students of history should uncover the underlying positive forces which direct the stream of institutional progress. In the political and the social world, as well as in the field of physics and of chemistry, transformations take place in response to changes in the surrounding media,—that is, in the social and physical environment or in the industry of the people. Political and legal institutions, social customs, wars and royal intrigues are but the visible manifestations of underlying and powerful social, economic, geographic and racial forces. The institutions of different nations and the present situation in various countries are the effects of preceding events; they have been molded and evolved as the result of a long-continued play of interacting social forces. It is the function of the real historian as distinguished from the writer of biography and the compiler of chronology, to ascertain in some measure the reason for the rise and fall of specific nations, parties and principles. He should disclose the landmarks in human progress and the mainsprings of human conduct.

Before broad and reasonable generalizations as to the progress of mankind can be drawn, an enormous mass of data must be gathered and digested. This data must relate not merely to political events or to the work and ideas of certain prominent and more or less spectacular personages who have stood in the foreground in the generations which lie behind the present. The memoirs of the “not-great” are indeed the important, but usually the neglected, portion of true history. Too many historians have apparently overlooked the existence of a laboring population. Yet, the formation and deformation of political and legal institutions cannot be adequately under-

stood without a knowledge of the life, ideals, customs, industrial and social relations of the mass of the common people. The subject matter of history is human life. With Professor Magnusson we may assert:—"Grand is the domain of history, for, while the botanist studies plants, the zoölogist bugs, the geologist fossils, and the linguist words, the student of history studies 'the proper study of mankind'—Man." Moreover, since by means of it the factors in the equation of our complex civilization of today can be reduced to their simplest terms, scientific history can be made extremely interesting to all students who have "emerged from the embryonic conditions of the small boy," except perhaps, to a few abnormal individuals who are practically devoid of all interest in racial betterment or national progress.

American history has suffered greatly because of superficial and prejudiced interpretation of facts, and because of the lack of definite and accurate data. Consequently, our historians have often been guilty of presenting a false picture of the history of the nation. Their conclusions have, not infrequently, been very much biased and distorted. In part this unfortunate situation is the direct and inevitable result of a dearth of minute and local historical data. Also, it is partly due to a false and pernicious idea of patriotism which has led writers to over-emphasize the good qualities of certain historical personages and to accentuate, on the other hand, the moral weaknesses of others: it has caused historians to discover altruistic and broad-minded ideals where in reality egoistic and particularistic ambitions were uppermost. The glorification of the past has naturally caused the student and reader of history to become pessimistic in regard to the present and the future of the nation. The past has too often been pictured as surrounded by an unreal halo of glorious deeds. The imaginary good old days and the more or less mythical heroic leaders of former generations when placed in comparison with the somber, but actual, present has checked and chastened the enthusiasm of many a young idealist and transformed him into a cynic. With this contrast of light and shade in plain sight the present seemed hopelessly degenerate; corruption, graft and political chicanery were believed to be of recent origin whereas in reality these evils under a multitude of disguises are as old as history. It is often difficult for the student to realize that the men of former generations were not supermen, but men—living, breathing, eating, loving, hating, smiling, scowling men who made mistakes and were not wholly controlled by altruistic motives, men who were liable to be influenced by prejudices, partizan bias and ignoble motives. Recall for example the pictures, painted by the typical text-book writers of twenty years ago, of such men as Washington, Hamilton, Jefferson, Webster and Lincoln. There arise in your minds pictures of pure, patriotic, pre-ëminent personages living on a high plane far above the petty prejudices and personal ambitions of the common herd. On the other hand, recall also the repulsive and despicable character of the traditional Benedict Arnold, Aaron Burr or Charles Lee. "This amiable conventionalization and sanctification of our national heroes" and this malicious condemnation and vilification of

our national scapegoats are "pedagogically vicious." As teachers of history we should not be interested in propagating spread-eagleism or pseudo-patriotism, or in magnifying the merits of certain American patriots or in multiplying the demerits of certain less desirable characters in American history.

Doubtless having these evils in mind, some may urge that it is the job of the historian and of the teacher of history merely to present the facts. Others may be permitted to draw conclusions; but the historian ought not to be required to undertake the task. If such there be, let me remind them in the words of Professor Turner that they "are confronted with the difficulty that the fact which they would represent is not planted on the solid ground of fixed conditions; it is in the midst and is itself a part of the changing currents, the interacting influences of the time, deriving its significance as a fact from its relations to the deeper-seated movements of the age, movements so gradual that often only the passing years can reveal the truth about the fact and its right to a place on the historian's page."

Let us very briefly consider a few practical points selected at random which illustrate in some measure the possibilities in the teaching of history as a social science. The forces concerned in history making are, of course, a multitude in comparison with those more simple and tangible forces which act in the laboratory of the physicist or in the factory of the manufacturer. Each nation and each age have their own peculiar problems, balance of social forces and rate of institutional change. The complexity and the magnitude of the forces involved in social changes as disclosed by the study of history, insure the existence of social inertia. The student of history should early learn that the first law of social change is that social formation and deformation take place gradually. Revolutions signifying great and abrupt changes in the national economic or social life, are more apparent than real. The revolution is only a surface manifestation. Forms of government may be radically changed, but the alignment of classes, subordination, legal traditions, religious, ethical and social ideals still remain inevitably to nullify or to modify the structure of the newly organized government.

The French Revolution is the classic example of a political revolution. Yet the French Revolution led directly to the dictatorship of Napoleon. Absolutism was not immediately abolished by the downfall of Louis XVI. For the stable despotism of the Bourbon ruler was substituted the unstable and constantly changing absolutism of the Assembly and the Directory and finally of Napoleon. The Reign of Terror was simply the use of direct and primitive methods of maintaining control over the masses and of overriding all opposition. Kings and princes, supported by hereditary prestige and crystallized legal and constitutional forms, did not need to use, except occasionally, the crude method of wholesale legal assassination in order to maintain order and subordination. But the newly organized government with its enthusiastic band of untried dictators, unsupported by the trappings of royalty and the legal and constitutional mummary of the period, were quick-

ly driven by necessity to the use of the guillotine. The French Revolution was in effect only the spectacular part of a process of social change which greatly modified political conditions in France. A similar conclusion may be drawn in regard to the English Revolutions of 1642 and 1688, or from the American Revolution.

The history of a given land area is conditioned by many diverse factors and forces among which may be mentioned,—industrial conditions, religion, race, law, custom, climate, soil, geographical position, national neighbors, density of population, natural resources, etc. The study of American history furnishes a very interesting and instructive study in social mechanics. The teacher of American history should not overlook certain marked peculiarities in the alignment of social forces in this country. (1) The importance of the frontier element in our history is perhaps unparalleled. The history of the United States down to quite recent times has been warped and twisted by the presence of an ever-moving frontier line which has visibly reflected its ideals and views of governmental principles upon the legislation and the social composition of the entire country. (2) The absence of a royal or noble class based upon hereditary privilege and of powerful national neighbors must be given due weight. (3) Negro slavery produced a dangerous sectional antagonism which led directly to the Civil War. The presence of the Negro furnishes a very difficult problem for the American legislator and social scientist of today. (4) The continued influx of a large and diverse immigrant class has exercised and is still exercising a marked influence upon our political and social institutions. Here differences in customs and traditions produce effects similar to those which result from differences in color.

English history particularly presents to the student a view of the origins of our legal and political institutions. The development of modern legislative systems can easily be studied in connection with a course in English history. Representative government has come into being as the result of tortuous growth from insignificant germs; it has been built up piece by piece, by means of concession after concession. In English history we can see unrolled before us the evolution of Anglo-Saxon institutions and the play of forces which produced them.

Returning to American history we find that free land, unrestricted individual development of natural resources, *laissez faire*, distrust of the expert and of the well-trained man were characteristic of the pioneer democracy of the pre-Civil War period. These are the fundamental influences which molded the traditional Americanisms of our people. The bewildering changes in national policy, internal and foreign, the demands of various parties and factions, the kaleidoscopic transformations in public opinion since the Civil War, or since 1880, can only be studied intelligently or adequately explained by giving due weight to the enormous increase in wealth, the heaping up of men and women in cities, the disappearance of the famous westward-moving frontier line which has ever renewed our national youth,

and the evaporation of our pioneer democracy with its emphasis upon crude individualism, its predilection for a *laissez faire* policy and its distrust of the judgment of experts. The greenback party, Populism, Bryanism, socialism, the bossism of the business man of the Mark Hanna type, and imperialism are the natural fruits of the rapid transformation of the continent from the home of a frontier community to that of a nation dominated by large-scale industry, to that of a nation of wage earners, to that of a nation called the melting pot of the world. Party leaders and party policies are but the visible expressions or the resultants of the more or less conflicting demands of various interests waxing strong or declining, during this eventful and interesting period of readjustment.

Perhaps a concrete illustration as to the treatment of a specific episode in American history may not be amiss. Let us take, for example, the election of 1860. Our text-books usually state that the electoral vote of the North was in a large measure cast in favor of Lincoln; but that the popular vote was quite evenly divided between Lincoln and Douglass. The platforms of the two parties are usually presented in some detail. But rarely, if ever, is an analysis of the forces acting given. The student is not asked to note the importance of railway development in building up the Northwest or the potent influence of the Germans, the Scotch-Irish, the English and the New Englanders who settled in the Northwestern States in the years immediately preceding 1860. Nevertheless as soon as it is pointed out that a change of one vote in approximately every twenty would have given Douglass rather than Lincoln the Northwest and thrown the election into the House of Representatives where the South probably would have triumphed, we begin to assign proper weight to a skillfully drawn platform which catered to the homeseeker, the wage earner and the industrial interests of Pennsylvania, to the effect of railway building which bound together the East and the West and weakened the river ties which knit the North to the South, and to the influence of immigration.

One of our most recent text-books in American History in discussing Leisler's "Revolution" in New York states that it was the work of a "fanatical demagogue." The writer of this book entirely overlooks the pith of the matter. This so-called revolution was, in some measure, a counterpart of the English Revolution of 1688. The un-represented, over-taxed, small- or non-propertied people made a brave attempt under the leadership of Leisler to wrest the control of the colony from the hands of the rich fur traders, the large landowners or patroons and the royal officials. Leisler and his son-in-law were discredited and executed at the behest of a "party of aristocrats."

History is not studied today—at least in the best educational institutions—for the mere sake of history or of a knowledge of the past, for disciplinary value only, for so-called cultural reasons merely, or because it is considered to be the proper or conventional thing for a college graduate to be familiarly acquainted with. It is studied because it will, if properly presented and

grasped, give an inkling into present-day problems. Men can look upon the political and social struggles of the past in a much more unprejudiced manner than they can upon those in which they are themselves vitally interested. If the revolution of political and social institutions could be traced with some degree of accuracy, many present-day evils and injustices could more readily be remedied and new ones avoided. The study of history should render efficient aid in placing our present environment, social and political, in proper perspective.

Two additional points should not be overlooked. (1) The history of nations is closely inter-related. The attempt to consider a nation's history apart from the history of neighboring and rival countries is often not satisfactory. In fact, it may without much exaggeration be said that a person who does not study the history and institutions of other countries and centuries, cannot understand the institutions and problems of his own country and generation. (2) History does not repeat itself,—at least not on a large scale. The modern world is very different from the ancient. New forces and new conditions obtain,—the economic and social basis of modern civilization is quite different from that found in ancient times. Yet, certain fundamental forces or instincts are at work today which were of importance in earlier times.

Granting the validity of the preceding arguments, the conclusion as to the appropriate aim of the teacher of history is easily presented. The history teacher should attempt to present the subject to students as a chain of cause and effect the chief value of which is to place the student in a position to honestly, dispassionately and carefully evaluate the social forces which are acting and reacting in society at the present time.

THE MOROCCO CRISIS OF 1911.

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Africa furnished the last great field for European colonial enterprise. During the nineteenth century practically all of it was partitioned between Belgium, Germany, England, and France. Of these powers only the last three desired great territorial expansion, and in Germany such a desire did not awaken until the closing years of the century. On the contrary, after 1871, Bismarck rather wished France to be busy in Africa, so that she might not be able to undertake a war of revenge. The result was that by far the larger part of the continent, and almost all the better part, was occupied by England and by France.

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While the most valuable possessions of England were in the south, the acquisitions of France were largely in the north, along the southern shore of the Mediterranean, where the Carthaginian power had been founded, where Roman and Christian civilization had once flourished, and where, after the Arab conquest, dwelt those famous and terrible pirates of whom Cervantes has written and whom our sailors once knew to their cost. For more than a thousand years the land where Hannibal lived, and where Augustine and Cyprian expounded Christian doctrine, was given over to the darkest night of barbarous confusion. Throughout the middle ages and down to the nineteenth century the commerce of the Mediterranean and often the shores of Italy and Spain were at the mercy of freebooters who knew no pity and no scruple. As the naval power of the great nations increased much of this activity was suppressed, but it was the destiny of France finally to bring it to an end.

In 1830 French troops landed in Algeria, and after many arduous campaigns entirely conquered the country. The Dey was deposed and Algeria was annexed to France. The results in this country may be taken as typical of what followed the advent of the authority of France in other Mohammedan districts. Order, peace, and security were established for the first time in the memory of man. Roads were built, railroads constructed, wells dug, and the desert made a scene of flourishing activity. Algeria became a tourists' paradise and a prosperous country.

In 1881 Tunis was made a French protectorate. Here the same striking results were achieved. Once more Carthage seemed as much within the civilized world as Syracuse.

Of this wonderful metamorphosis taking place in Mediterranean Africa two countries knew nothing. To the east of Tunis lay Tripoli, less important and thinly settled, a part of the Ottoman empire, and out of the sphere of French influence. But to the west of Algeria was Morocco, alluring, rich in resources, and on the highway of the world's commerce.

The condition of Morocco was hardly better than that of Algeria a hundred years before. The country was a scene of brutal anarchy and confusion. Some civilization had penetrated from outside, and at least one of the sultans was fond of music-boxes and cameras; but on the other hand there was no longer any effective government, not even a bad one. The Moroccan tribes defied the sultan's power again and again. For travellers there was no more dangerous place in the world. At last conditions became so intolerable that intervention was inevitable. Again destiny seemed to point to France for the work, and France was eager to undertake it.

The French Minister of Foreign Affairs, M. Delcassé, made his preparations carefully. He obtained the acquiescence of every country whose approval was deemed necessary. In return for concessions in Egypt and elsewhere England was to allow France a free hand in Morocco. At this time every difference between France and England was settled, and a begin-

ning was made of the friendly agreement or *Entente Cordiale*. Italy was pacified by a recognition of her pretensions in Tripoli. To Spain was promised a share of Morocco itself. Her house now in order, France was ready to act, when she was rudely disturbed by a brusque intruder. In 1905 the Emperor of Germany suddenly appeared in Morocco and announced to the sultan that Germany would uphold his sovereign power.

M. Delcassé had not thought it necessary to obtain the consent of Germany or offer her anything. The Germans had never had pretensions in northern Africa, and were not supposed to have any desire for power there. Perhaps, also, M. Delcassé hated Germany, and the French ministers thought they had isolated her and could afford to neglect her. They had overlooked several factors, however. Germany had not obtained her share of colonial possessions, and now her increasing population and expanding trade seemed to make them vitally necessary. Moreover, Germany was exceedingly irritated by the dread of her own growing power. She felt strong enough to insist upon getting a share of whatever was being partitioned; she was anxious to make it clear that no power could afford to neglect her; and, if possible, she desired to break up the *Entente Cordiale*.

Germany had struck at a favorable moment. England stood by France resolutely, but it was obvious that the decisive fighting would be on land, and Russia, France's ally, was crippled as a result of her struggle with Japan. For a moment it seemed that war was unavoidable, but the shadow of 1871 still lay across France, and, it is said, her artillery was not ready. Therefore she yielded, and her patriotic minister went into retirement. Germany had barred the way. France could not enter Morocco.

An international congress, which was called, assembled at Algeciras in Spain. Here it was decided that Morocco should continue to be ruled by her sultan, but that France and Spain should occupy certain towns, and assist in maintaining order. That this was an unsatisfactory settlement everyone believed. The difficulty had only been postponed.

What was a triumph for Germany was a setback for the civilization of the world, since the anarchy in Morocco seemed to increase now that it was certain that France could not intervene. Throughout the Shereefian empire life was unsafe and disorder rampant. The impotence of the sultan was absolute. The world believed that something must be done, and that France ought to do it; but until Germany should consent, there was no hope.

France did make an effort to reach an understanding. This was not easy, since the years after 1905 had been years of enormous prestige for Germany. Her power seemed colossal, and she did what pleased her best. The leadership of Europe was in her hands as leadership had once been possessed by the great Napoleon. Therefore France could get no explicit or formal answer. Yet in 1909 Germany seemed to recognize her exceptional position in Morocco, so that in the process of maintaining order there

her troops were pushed farther and farther into the country. Actually events seemed to work in her favor.

Then, without warning, in June, 1911, the German warship Panther was dispatched to Agadir, a Moroccan port on the Atlantic. The explanation given was that German trade in the vicinity was in danger and needed protection; but investigation made it clear that Germany's interests there were insignificant, and that there was not any unusual disorder. No one was deceived. It was apparent that Germany, seeing the trend of events in the Moorish dominions, had resolved to get her share of the spoils before France could go further. The gravity of the situation was realized everywhere. The Morocco problem was stalking again from its ill-made grave to affright the chancelleries of Europe.

Once more Germany's intervention was well timed. Her alliance with Austria-Hungary had never been closer. Italy was nominally her ally, and it seemed probable that any defection in this quarter would be made good by Turkey. On the other hand it was doubtful whether Russia could fight against Germany, or whether she would fight. This left only England and France.

So far as Germany could judge at the moment both France and England were too deeply involved in domestic troubles to leave them ready for a crisis in foreign affairs. France was in the midst of the gravest industrial complications. A great railroad strike had been brought to an end only when the military forces had run the trains. So great was the anger caused by this measure that the malcontents were resorting to acts of *sabotage*, feeling it justifiable to wreck trains and destroy railroad property wherever they could. Moreover, ministries were following each other in rapid succession. The government seemed unstable and the country disorganized and discontented.

In England there was widespread discontent growing out of the increased cost of living. Industrial disorders were looming up which resulted later in the summer in a pitched battle in Liverpool, and in London greater inconvenience than had existed in the memory of living man. But more than this, the crisis was approaching in a constitutional struggle bitterer than anything since the passage of the Reform Bill of 1832. The Germans might well doubt whether England could give France any material assistance.

The French government entered at once into negotiations with Germany. It pretended not to understand why Germany had put aside the Algeciras agreement, to which she had been a party. On the other hand Germany took the ground that the proceedings of France had been such as to make the agreement of no force. A new order of things had arisen. Germany too would have something in Morocco, or, as she hinted, compensation must be given elsewhere. It is significant of the enormous prestige of Germany at this moment and the extreme reluctance of any nation to go

to war with her, that France quietly began a series of "conversations" to learn just what the price must be. The warship remained at Agadir.

The "conversations" were carried on in Berlin by M. Jules Cambon, the ablest diplomat of France, and Herr von Kiderlen-Waechter, the German Minister of Foreign Affairs. At no time did either government make public the negotiations, so that the terms are partly a matter of conjecture. On several occasions, however, there appeared in great journals having close relations with the respective governments, statements which were believed to be inspired, and which were universally regarded as indirect official communications. At present the history of the negotiations must be written from these statements.

At first Germany seemed to desire a portion of Morocco on the Atlantic, or at least a coaling-station, and the most important part of the French Congo adjoining her own West African possession of the Cameroons. This she desired. What she would allow in return was not made clear.

Such startling proposals had an unexpected effect in western Europe.

In Germany feeling was divided. At first the German people were as much surprised as any at the bold stroke of their government. After a little it became clear that the mass of the people desired no war over Morocco. The socialists were bitterly opposed to it. On the other hand the Pan-Germanists, exceedingly vociferous, and influential in the press, clamored for a part of Morocco or war. No matter what compensation were made elsewhere, some of Morocco must be kept in order to counteract the growth of French power in northern Africa. France might train and arm hundreds of thousands of Arab soldiers who could one day be used in a war with the Fatherland; but not so easily if Germany possessed adjoining Mohammedan territory herself. There must be no compromise on this point.

In France the excessive proposals of Germany made a profound impression. It was felt that Germany's action was brutal and unprovoked; though France might make some concessions provided they did not touch her national honor. Almost no one wanted war, and everyone dreaded it. Therefore, with a unanimity not seen in many years, all parties stood together in support of their government against German aggression. There was no outburst of popular fury, no wild expression of wrath; but France began quietly arming and preparing for the worst.

In this attitude of conciliatory firmness France was encouraged by England, who threw herself boldly into the scale. Mr. Lloyd-George, Chancellor of the Exchequer, and Mr. Asquith, Prime Minister, made public speeches in which they declared that England would not permit the Morocco question to be settled as Germany pleased. These utterances came in the most desperate moment of parliamentary conflict, but they gained added weight when a few days later Mr. Balfour, leader of the Opposition in the Commons, rose and in memorable words declared that party differences had no place in foreign affairs. "If," he said, "there are any who supposed

that we would be wiped off the map of Europe because we have our difficulties at home, it may be worth while saying that they utterly mistake the temper of the British people and the patriotism of the Opposition." England was making no idle threat. That her ally trusted her was evident a little later when it was found that all the French warships were concentrated in the Mediterranean, while the great fleets of England were ready to strike at a moment's notice in the Channel and in the North Sea.

Thus encouraged, France maintained an attitude correct, dignified, and resolute. Germany was asking a payment for something she did not have to sell, but France could afford to be generous; she would make concessions. Only she must now get what she wanted past the possibility of any future questioning. For Morocco she would give about one-third of the French Congo.

The negotiations were carried on in a friendly spirit but with much difficulty for several weeks. Once they were broken off altogether, and there were ominous rumors and alarms. Indeed the long suspense began to tell upon the nerves of Europe. There was little improvements when presently the negotiations were taken up again. All hoped that a peaceful settlement might be attained, though no one could be sure but that some sudden explosion might plunge the nations into war.

In France a marked change had been brought about, which was one of the most striking results of the crises. The overwhelming disasters of the Franco-Prussian War had produced in France, as elsewhere, an impression which forty years had not been able to destroy. France had made of herself an armed nation and re-fortified her frontier, but there was more the less a lingering sense of military inferiority. In addition to this the French people had become intensely devoted to peace and economic progress. There had been no time when they were not willing to fight Germany, but there had arisen an increasing dread of doing this. France understood, as clearly as did her enemies, that her democratic government made it less easy for her to maintain discipline in her army and navy, and exert all her force suddenly, than did the iron centralization of her enemy: and that the great social changes which were going on within her borders, tended to some extent toward demoralization and disorder. This is always the price which must be paid by a liberal republic surrounded by monarchy and absolutism. Her stationary population made her strength little greater than it had been in 1870, while the swelling numbers of Germany threatened to burst over their borders as they had done in the days of the Teutones and Visigoths. There are no braver people than the French, but with Germany France would no longer fight an offensive war, and dreaded the outcome of a defensive one.

Most probably these feelings prevailed in France when the news reached Paris that the Panther had gone to Agadir. It is probable that they continued until the German demands began to leak out. Then a re-

markable spectacle was witnessed. It is customary to think of the French people as hasty and unstable; but never was there a more universal calm and firmness. That Germany should act with such brutal disregard and unconcern, that she should ask France to yield up what had cost the blood and treasure of her sons for something which was not Germany's, caused a passionate resentment to sweep over the country. Only there was nothing hasty and rash, as there was nothing undignified or weak. The French government undertook to learn with patient courtesy whether Germany's good-will could be obtained in a manner consistent with French honor. Meanwhile it yielded nothing. The day had passed when a M. Delcassé must fall because Germany disliked him. France had regained her confidence, and was standing before Germany erect. Perhaps in this respect alone the crisis was worth all the terror that it cost.

There is no doubt that this attitude was made possible, at least in the beginning, by encouragement from England. England also had come to fear and hate Germany, so that opposition to Germany was the cornerstone of her foreign policy. There was in England, even more than in France, an overpowering dread of the German army. Since the beginning of the Dreadnaught era, when Germany had begun to push hard for naval supremacy, it had begun to be felt that England's old defenses were no longer secure, and that some sudden attack from over the North Sea might destroy her entirely. Therefore England would have welcomed the opportunity to sweep the German fleet from the seas while Germany was locked in a struggle with some other great power. England was ready to fight, as she had been in 1905.

In Germany this was realized clearly, and the result was an intensity of bitterness toward England such as had not been seen for generations. "We know now the enemy who loses no chance to bar our way," said one of the German papers. English meddling was the subject of violent attack all over the country. In Berlin a widely advertised meeting was held to protest against the "uncalled-for interference of England." "I would never trust an Englishman," the Pan-Germanists were saying. The Emperor improved the occasion to urge the building of more battleships so that Germany might have her rightful place under the sun.

France, for all her courtesy and complaisant manner, was unyieldingly obstinate. She was disposed to be liberal in the beginning, but afterward would not swerve from the course she marked out. She wished absolute supremacy in Morocco, acknowledged in such terms as never to admit of doubt in the future. For this she would give about a third of her Congo territory, reserving to herself Libreville harbor. This was all. She insisted now that all communications be in writing.

What Germany was willing to yield was perhaps not clear to the French ministers, such was the ambiguity of expression. Doubtless but for the plain speaking of England she would have insisted upon a Moroccan coaling-

station, or even a sphere of influence. When these points seemed abandoned, it appeared that she desired France to take Morocco on such terms that France would have little more than the task of maintaining order. She is said to have demanded special economic privileges, and rights which would have made French authority shadowy at best. In the absence of documentary evidence none of this is certain. It is fairly certain, however, that the French government now laid down a second principle. As before she desired absolute political supremacy in Morocco, and would have nothing less; but for all powers there must be equal economic opportunity in Morocco; to none could she give more.

Several times the negotiators seemed to reach a deadlock. Week after week dragged by with slow interchange of documents. It was said at last that M. Cambon and Herr von Kiderlen-Waechter had come to an agreement as to principle, but must have time to work out satisfactory details. A peaceful solution was predicted in responsible quarters. Meanwhile, however, nothing certain was known, and in spite of an outward calm the tension was very great. One evening it was reported that Uhlans had crossed the French frontier, and the newspapers were eagerly bought up in the streets of Paris. Many feared that during the long delay some little incident would cause war.

Some things were quite clear by this time. If Germany had hoped to drive France into precipitate submission, she had failed entirely. If her action had been a "bluff," it had gained her nothing. The majority of the German people did not seem to think Morocco worth war, nor did they favor a war of aggression upon France. It was clear that the capitalists and industrial classes wanted peace. Only the Pan-Germanists declared that the Emperor, having sent a ship to Agadir, must not abandon Morocco without a fight. They ridiculed any effective resistance from France. A German cartoon, widely circulated, showed a startled President Fallieres confronting the apparition of Napoleon III. Underneath were the significant words: "*Thun Sie's nicht.*"

In France the feeling of apprehension was now at least balanced by the determined spirit to make no dishonorable surrender. It seemed less difficult to stand before the antagonist now. The German cartoon was answered by a French picture of Wilhelm restrained from drawing his sword by the shade of von Moltke. "*Ne le faites pas,*" were the words, while overhead the sky was dark with the aeroplanes of France. It was shown that against twenty-three German divisions France could put into field twenty, and that in a defensive war Belfort and the frontier fortresses would make the tale even. It was pointed out that if France could defend herself successfully for a few months, Germany might be driven by economic exhaustion to abandon the struggle. It was believed by some that the French field artillery was superior to that of the Germans, and it was thought that the French generals were abler men. In the air she was immeasurably

stronger. In the Mediterranean her fleet would hardly be opposed. In the North Sea the English fleets were overwhelmingly superior. In France there was no longer division behind the government.

For the present, indeed, France had much the better of the argument, for while her markets were firm and her business world scarcely disturbed, the Berlin bourse was weak and a panic threatened to sweep over the Empire. Never was the colossal money power of France more strikingly revealed, and never was the delicacy of international finance more clearly seen. As von Bülow had once said, France was rich and Germany poor. In France there was an enormous accumulation of surplus capital, in Germany only a little. But in Germany there had been an amazing industrial expansion, which demanded immense sums of money. This money had been borrowed, much of it from France. Already, before the Morocco question loomed up, credit was strained to the breaking-point. Now, with war in the air, depositors began drawing their money from savings-banks, and loans began to be called. Moreover, the French bankers, who had shown much cautious forbearance, at last began a financial mobilization. Without any stir, they drew in their money from Germany directly, and indirectly through their agents. The Reichsbank had to raise its discount rate, and widespread economic ruin seemed imminent.

By the beginning of September this was the situation. The powers had reached a deadlock, the business world was unsettled, the public nerves were unstrung. The delay was almost as costly as a war, and Germany could least afford to pay the price. And so at last, what with the firm stand of France, the decisive attitude of England, and adverse public opinion all over the world, Germany thought it better to bring the matter to an end. On September 20 it was possible to announce that a definite understanding had been reached upon the most important point: Morocco was to be a French protectorate. It would take some time to work out the other problems, but a peaceful settlement was now certain. Thus the crisis was passed.

The interpretation of the history of the present is difficult, and opinion must be subject to constant revision. So far as one may judge, however, the most important things revealed by this dangerous summer were as follows:

Germany was so confident of her own strength as to be willing to defy both France and England.

She made good her point: no power could afford to neglect Germany; she must share in any distribution of favors; her consent was as necessary as that of any power.

But it was shown that there was a limit to what she could do; she was not yet the supreme arbiter of Europe.

France had asserted herself. She could look Germany in the face. She was still one of the greatest powers in the world.

Her enormous financial strength was an incalculable asset either in peace or war.

The crisis had aroused the spirit of French nationality and given greater coherence to the Republic.

If Germany had hoped to drive apart England and France, she had failed. They now stood together as never before. The *Entente Cordiale* was virtually a close alliance.

England had gained the greater hostility of Germany. She would be made to pay, if ever Germany could reach her.

In England there was clearer realization of this. Hopes began to be expressed that England and Germany might make a lasting settlement of their differences. Many people saw the folly of continuing to thwart Germany's colonial ambitions and legitimate desire for expansion.

MATHEMATICAL CONFERENCE

WHAT RESULT MAY WE REASONABLY EXPECT IN MATHEMATICS OF A HIGH SCHOOL STUDENT, AND ON WHAT SUBJECT-MATTER SHALL WE BASE OUR EXPECTATIONS.

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Dr. Eliot says, "The product of education should be an efficient person. Has he the ability to use his hand, to enjoy nature, to possess knowledge, to express himself, to imagine, to grow in character." And President Maxwell says that our schools must produce students who have "health, deft hands, accurate observation, correct reasoning powers, clear comprehension, happy dispositions, helpful desires, the spirit of co-operation, a knowledge of the world of today, and who stand for clean living."

Dr. Eliot and President Maxwell have said the same thing, but each differently. Both demand that the product of education shall be men of breadth and depth, men capable, not only of serving themselves, but also of serving humanity. One of the components in the making of such men is the mental training obtained from the study of high-school mathematics. But this mental training, or process of education, involves three factors, namely, the teacher, the pupil, and the subject-matter. Hence underlying the subject of this paper, there is the more fundamental question of the teacher and his presentation of the subject-matter, for upon these rather than upon the pupil depend the results desired.

Quintilian, if I translate him correctly, said: "Let him that is skilled in teaching ascertain first of all, when a boy is entrusted to him, his ability

and disposition. When a tutor has observed these indications of disposition and ability, let him next consider how the mind of his boy is to be managed. Some boys are indolent, unless you stimulate them; some are indignant at being commanded; fear restrains some, and unnerves others; continued labor form some; but with others hasty effort succeeds better." Evidently Quintilian's ideal teacher understood child-nature and the laws of individuality as set forth by Thorndike in his late monograph wherein he says: "The teacher who has not learned by ordinary experience that each child is to some extent a separate problem, demanding for his best interest an educational theory and practice to fit him, should learn it once for all from psychological theory."

Granting these premises the conclusion must be that the teacher's knowledge of child personality is fundamental to all else, and because of this conclusion, Professor Henry Suzzallo is right in his contention when he declares that "The teaching profession is showing signs of somewhat violent reaction against the uniformity of method that for so long cluded and mechanized the schools," for the more complete the mechanization the more dense is the stupidity of the mechanized product.

Another qualification of our ideal teacher is personality in his daily relations with his pupils. If the personal relations of teacher and pupil are what they ought to be, the possibilities of the teacher are limitless, for the school-room opens easily into moral conceptions and relations and right emotions. For, as Mr. Newman says, "The academic system without the personal influence of teachers upon pupils, is an Arctic winter: it will create an ice-bound, petrified cast-iron school and nothing else. Influence precedes law, personality precedes systems. With influence there is life, without it there is none."

To personality we must add enthusiasm, for as Bulwer-Lytton said: "Nothing is so contagious as enthusiasm. It is the genius of sincerity, and truth accomplishes no victory without it." Teachers of great personality and enthusiasm never die. Their names are an inspiration and their influence is never ending.

Long before psychology became a science great teachers knew many of the laws of mind development and taught in accordance therewith. They perceived that the fundamental function of intellect is discrimination, without which the science of mathematics would be impossible. Mind starts from discrimination. Our intelligence is therefore, absolutely limited by our power of discrimination. As teachers we must strive to cultivate the discrimination aptitude. The more pronounced this aptitude the better will be the mathematical results.

Furthermore the psychologists tell us that the human mind is so constructed that it must conceive every perception in a time-relation order—and every perception of an object in a space-relation—"as outside or beside its perceiving self." As these necessary time relations are reducible to number, they will be discovered in the theory of number, and studied

as arithmetic and algebra. Likewise the necessary space-relations are reducible to position and form and constitute the science of geometry. Mathematics, therefore, as Dr. Nicholas Murry Butler says, "studies the aspect of all knowing and reveals to us the universe of relations." Hence that teacher who appreciates that underlying all knowledge there is a never changing mathematical basis, and who gradually leads his pupils towards an understanding of this fundamental principle, will get more valuable results than he whose teaching cuts across this world-wide ideal.

But the development of the pupil must also be in harmony with other psychological laws which are as necessary and fundamental as are these of time and space relations. If concepts possessing certain properties in common are confused, the result will be stupidity.

Darwin says that when he entered Edinburg University he found the "lectures as dull as the lecturers," and that at Oxford he found conditions but little better. Dullness, want of enthusiasm and teaching above the pupil are the three leading factors for producing stupidity. The pupil, if normal, and if taught according to the laws of developing intellect, is never stupid, on the contrary, he is hungry for whatever is in harmony with his awakened faculties. His mental condition is well typified in the following lines from Mary Howitt. She represents the pupil as saying:

"Give us light amid our darkness,
Let us know the good from ill;
Hate us not for all our blindness,
Love us, lead us, show us kindness,
You can make us what you will.

We are willing, we are ready;
We would *learn* if you would teach.
We have hearts that yearn towards duty,
We have minds alive to beauty,
Souls that any height can reach."

By finding out what the pupil thinks rather than what he remembers, by making the book a helping tool instead of a fetish of worship; by seeking quality rather than quantity; by following that psychological law which develops observation, discrimination, comparison, verification, classification and finally the power of deducing therefrom the resulting conclusions, we shall surely avoid making pupils stupid, and shall, in a measure, succeed in giving them that kind of "education which will fill their future with meaning."

All true teaching centers and ends in the establishment of clear notions and fixed relations, in abstracts, as all relations are, for the perceived relation is the thing *par excellence*. As is well known, the greatest difficulty for a child, when he is learning to walk, is, not to stumble over his own

feet. Similarly, the greatest difficulty for a pupil is, not to stumble over his own ideas. And right here, if anywhere, a guiding hand is needed. These new abstracts must be stored away, as it were, in different drawers of the mind, and properly labelled for future use; but they will get into the wrong drawer, or pigeon-hole, unless the teacher so conducts the labelling that error is eliminated. He who expects to solve a problem which confounds two sets of unrelated abstracts, and obtain the correct answer, has either stored his ideas improperly, or searches for them in the wrong pigeon-hole. To label properly and to pigeon-hole correctly is to reason accurately. Often pupils are expected and sometimes commanded to reason correctly, the teacher evidently forgetful of the fact that it is as necessary to *learn to reason* before one can expect to be able to reason, as it is to learn to swim before one can with safety venture into deep water. To *teach* pupils to reason, not to *command* them to do so, is the teacher's real work from which he must not shrink, even if pigeon-holing a new idea in the gray matter of the brain of an average pupil is a nerve-sapping process.

Again, the results which we may reasonably expect in this decade of the twentieth century must be different from what was required of the schools of the aristocratic, or the purely cultural, civilizations of the past. Then the educational systems were 'based upon the idea that education was for the preparation of the privileged few for leadership. In their life and industry, the masses of men were left untouched, unlifted, blind followers in the ways marked out by the leaders.' (James G. Joyner). But life and the preparation for life today differs vastly from the life and the preparation for life of yesterday, because of man's ever changing environment. President Oscar J. Craig puts it thus: "Today not the ancient history of the steam engine is demanded, but the ability to construct the most modern and approved one, and to suggest still further improvements; not the story of how Franklin discovered the identity of lightning and electricity, but the ability to construct the dynamo that will generate the most power, or run the greatest number of lights at the least expense; not how the subject of alchemy has developed into modern chemistry, but how to conduct manufactures, prepare fertilizers and compound pharmaceutical mixtures with the least possible waste."

The education of the twentieth century must be an education for power and service in addition to that of leadership and culture. This means that every man needs, and should be provided with, two kinds of education,—the one to fit him to work and the other to fit him to live; and therefore the high schools must give both to the pupils entrusted to them, because 90 per cent of the people of the United States make their living by industrial pursuits based upon manufacturing, transportation, and distribution of goods and some less than "5 per cent of our population ever reach the college, or university."

Therefore, not the less than 5 per cent, but the more than 90 per cent must be a determining factor as to the result we may expect; this idea is

further emphasized by Prin. T. J. Mc Cormack (in his article "why do we study mathematics." N. E. A. Proceedings 1910.) He says: "Not one tenth of the graduates of our high schools ever enter professions in which their algebra and geometry are applied to concrete realities; not one day in three hundred and sixty-five is a high-school graduate called upon to 'apply,' as it is called, an algebraic or a geometric proposition. Not one in ten of our high-school pupils ever retain sufficient mathematical knowledge or skill to solve even a tolerably difficult concrete physical or mensurational problem after graduation." And Professor Olney once said, "It was not a rare exception to find a student who appeared to have mastered solid geometry and yet who was unable to solve such a problem as, 'To find how many barrels of water a cistern in the form of a frustum of a cone will contain.'"

But neither Mr. Mc Cormack nor Professor Olney contends that the time spent on algebra or geometry was lost,—only that some things taught are useless because not applicable, or forgotten because not within the limits of the pupil's experience. Both, no doubt, would hold that in our teaching of mathematics it becomes our duty to furnish our pupils not only with certain time and space relations, but also, through and by means of these fundamental relations, "with these eternal impalpable things, which remain with us all from our study of algebra and geometry, that constitute the sole profit that 90 per cent of us ever derive from the study of mathematics;" and it is this that furnishes the foundation of truth to Emerson's paradoxical saying that "education is what remains to us after everything we have learned at school is forgotten."

Our conquest and utilization of power within the last thirty years is almost unbelievable. Today we are using mechanical energy equivalent to some 30,000,000 horse power, or the equivalent of say 360, 000,000 man power. Our occupations and mode of life are undergoing changes in harmony therewith, and our public school system must adjust itself so as to serve us according to these changing conditions. Our school system is fundamental to our various institutional functions, hence education will have to deal with the individual in a different way than it has in the past. Our definition of a liberally educated man must also change. We are nearing the time when a man will be considered as liberally educated if he has such a command of his powers that he can complete a piece of work and turn from it knowing that it is complete. When he knows his own capabilities, the limit of his powers, and has control of himself, he has not only a liberal education but also culture, for (as Bosenquet says:) "Culture is a habit of mind instict with purpose, conscious of continuity and connection of human events, able and industrious, and capable of discerning the great from the trivial."

But the laws of matter and mind are such that only through a prolonged struggle can the pupil become possessed of powers, capabilities and a habit sufficient to cope successfully with the problems of life. For as

James Y. Joyner says: "In the moral, the spiritual and the intellectual world, things worth having have been divinely hedged about with difficulties, with hardness even, mayhap that those attaining them might in the very struggle for their attainment gather the strength that will make them, and teach him how to appreciate and use them when attained. The wise in all ages have recognized this great truth.—The golden fleece is still guarded by a fiery dragon."

Since high-school boys and girls, in the main, will become only average men and women, the results which we may reasonably expect from them will be only average results. But they must be fundamental and fully assimilated results, otherwise these pupils will go forth as "educated incapables."

The aim of secondary mathematics is two-fold—the acquisition of knowledge and the cultivation of intellectual activity. But the former should always be subordinate to the latter, and both result in an economization of thought through a knowledge of mathematical symbolization. For, (as Mc Cormack says:) "The most salient practical feature of all scientific thought is its economic or labor saving purpose. All mathematical laws, formulas, principles, are a short hand, or short-mind process, a *multum in parvo*, a getting rid of thinking by very dint of thinking. The pupil who has gained this point of view, by contact with mathematics and especially algebraic study, acquires from it a sense of intellectual power and discipline which can be brought home to him with equal force by the study of no other branch of knowledge, and draws from it an aesthetic aspiration that heightens his whole spiritual life."

Yet not all of these average pupils will come to the same understanding and appreciation of the subject, for these embryo men and women will resolve into two classes in a degree typical of their views when they take up the duties of life. These two classes are, first those who seek only a passing grade, or at most utility, as the end of the study of algebra and geometry; they become two-dimensional, or superficial, and materialistic in tendency. Of such was Justice Hughes thinking when he gave utterance to the following: "When the time comes that knowledge will not be sought for its own sake, and men will not press forward simply in a desire of achievement, without hope of gain, to extend the limits of human knowledge and information, then, indeed, will the race enter upon its decadence." The second class includes those who seek culture and power as the ends of their daily school tasks; they become three-dimensional beings having depth as well as breadth.

These two classes are known as utilitarian and cultural. And because of these two pronounced types of minds among mature men, there are those of the first class who would degrade all studies to the level of utilitarianism, while the second class would eliminate from the course all which tends otherwise than to the cultural as symbolized in the purely classical studies. But the subject-matter of a high-school course in mathematics

must not lean strongly toward the one or the other. Because, in the past, the subject-matter and the teaching thereof favored very strongly the purely cultural, the extremists of the utilitarian class have brought forth uncalled for tirades against mathematics, in place of, as they should, against the unpedagogical presentation of the subject. (Read "*The Morals of Marcus Ordeyne*," by William J. Locke.) Since these tirades are supposed to be directed mostly against the English methods and curriculum of education rather than against the subject of mathematics, no defense is necessary.

The text is a factor of importance, but (as Prof. G. W. Myers says:) "No material can be so happily organized as to guarantee good results from poor teaching. With good teaching excellent mathematical results can be obtained from any high school text, conventional, mixed, unified, or fusion, flavored with real, vocational or other kinds of problems." Neither need teachers be highly ideal,—for 'personal love for a subject, a reasonable degree of scholarship in a subject, seasoned by a fairly good allowance of natural teaching tact, will succeed anywhere and with almost any kind of mathematical material;' for with the pupil, whatever has become a real intellectual asset is not forgotten, such being the law of mind development.

What we must do is to teach fewer things and more fundamental things in a more concrete and intelligible way. No other branch, so much as algebra, needs being put concretely in teaching. Prof. Thos. K. Kinney utters this; "No subject more earnestly engages the attention of teachers of mathematics than does algebra. It is the most important as well as difficult subject to teach in the range of elementary mathematics." In giving to algebra its ultimate simplicity and logical generality in abstract form, we cause it to lose in attractiveness to the immature mind. And the difficulty to make it attractive, and yet clothed as above, leads to the general dissatisfaction which is felt by both pupils and instructors; hence the attempt to so refound the subject that it will have a new and more concrete presentation.

Moreover pupils and parents are demanding a more usable knowledge of algebra as compensation for the time spent on it; hence questions of purely theoretical interest must become subordinate, and the unsubordinated theory must take on a more concrete presentation. Formal demonstrations for the beginners must be reduced to a minimum, and not until the pupil has acquired some familiarity with a considerable number of algebraic concepts and processes shall the real formal side of the subject be emphasized. As the pupil advances, principles and methods shall be unfolded and explained by means of simple and concrete examples derived from arithmetic, geometry, and allied subjects, making use of the sect, graph and other devices to visualize or suggest algebraic relations and methods.

By illustrating in some concrete way, the logical aspect of the subject under consideration, it loses in abstractness and consequent reach, but gains in sharpness, utility and attractiveness to the beginners; but they, not the teacher, are the ones to be primarily considered. Therefore "The everlasting question must be put again and again, does this, that, or the other, save,

find, restore, or benefit the individual that comes under its influence? Whatever does this, is good; whatever fails to do this is not good."

That many of our pupils do not get from algebra the power to think becomes evident from the fact that so many college freshmen are so often found to be surprisingly weak in their algebra. They appear to have very little knowledge as to the solution of equations, of how to interpret the solution of a problem, or how to translate a formula; and what they essay to do is done in a stupid, mechanical sort of a way. So long as this is the case, there must be a weakness somewhere which calls for remedy. And this weakness will not be removed until algebra is so taught that the pupil will come to see and appreciate not only its cultural value, but also that algebra, as the calculus of functions, "has for its object the generalization of the solutions of problems relating to the computation of magnitudes;" that is, that algebra is a powerful and useful tool in the hands of him who knows how to use it.

Professor Stone uttered the same idea when he said: "The present tendency in education is to make each study function in the life of the student—to make it lead to something. We must make algebra grow out of the pupil's arithmetic, thereby conforming to the psychological law of development. But passing from the particular we must form a habit of *thinking in general numbers*," and let me add, lead to abstract generalization, whenever possible, at the end of his thinking. Many pupils and some teachers think mathematics are not interesting. Not so interesting as Physics and Chemistry for instance. Now the truth is, mathematics is very interesting when presented in keeping with the pupils experience and by one who knows how to make it interesting.

But there is another enemy, other than want of interest, that we have to fight against. This enemy is "carelessness, inaccuracy, forgetfulness and slovenliness." Many pupils are leaving our schools "without any just appreciation of accuracy, and without ever getting out of the spelling age of calculation." Therefore some of the most desirable results which we may reasonably expect, are accuracy and speed in the use and interpretation of algebraic symbols, and the understanding of simple but fundamental principles, all of which should rest upon material so arranged and presented as to furnish a "better fitting for the mathematical needs of daily life" of the average pupil than would possibly be obtained from a year of formal algebra as generally presented. Such teaching and material will succeed "in making high-school algebra grip the motives of high-school boys and girls. As Geo. W. Myers says: 'Let informality as to method characterize the first half of the algebra. Let the algebraic treatments feature distinctly in: (1) the liberal use of inductions from arithmetic; (2) the early and persistent use of the equation, both as an instrument for problem solving, and as a means of suggesting and of treating topics implying balanced, or equated, relations; (3) the early, varied, and systematic use of pictured and graphic modes of rendering algebraic truths vivid and appealing to beginners.

Whenever possible algebraic matter should be related to allied parts of geometry, and problems of mensuration should be used to give meaning to radicals; for example, calculating the diagonals of squares and cubes, and the altitudes and areas of equilateral triangles will not only enforce the necessity for the meaning of radicals, but will also add interest and understanding to the subject.

Hence, in summing up this discussion as to the algebraic subject-matter on which we may base our expectations as to the results, I am inclined to outline it as follows:—For the first course such simple and concrete subject-matter as will ground the pupil in an appreciation of:—

- (1) a general use of the equation;
- (2) the use of positive and negative numbers;
- (3) the fundamental operations applied to integral algebraic expressions;
- (4) practice in algebraic language and symbolization;
- (5) the value of the simple equation in one unknown;
- (6) the economy of elimination as to two unknown numbers;
- (7) the factoring of such expressions as are necessary for the economic reduction of useful operations in the first year's work;
- (8) a knowledge of the fundamental operations of simple fractions;
- (9) the use of the statistical graph;
- (10) elementary quadratics;
- (11) the ability to use such simple radicals as are necessary for a first course in algebra.

And for the second course, such subject-matter as will lead to,—

- (1) a review of the principles underlying the first course and extend the pupil's knowledge thereof;
- (2) the application of the equations to geometrical matters;
- (3) a further investigation of the quadratic equation as to use and properties;
- (4) a discussion of the roots of an equation;
- (5) so much of inequalities and imaginaries as is necessary to understand their necessity and use in simple problems in algebra and geometry;
- (6) the elementary theory and fundamentals of ratio and proportion;
- (7) quadratic equations in two unknowns;
- (8) the graph of a quadratic equation;
- (9) the deriving of a rule from a formula.

From such simple and concrete subject-matter as here designated, if presented in accord with the experience and mind-development of the pupil, so that each new relation is clearly conceptualized, classified and generalized we may reasonably expect results so clear, so fundamental and so genetic that whether such a pupil essays to enter college, or business, he will, if necessary, use intelligently the simpler parts of his high-school algebra.

But we have, so far, outlined a course ending in time-relations only; there remains the whole field of space-relations,—a set of relations appealing to an entirely different phase of mentality, and therefore calling for different material and presentation, the presentation being by far the more important. As R. S. Beardsley says: "The success of the course in geometry depends more upon the teacher than any other circumstance. It is in the teacher's power to make geometry as dry as Ezekiel's valley of dry bones. On the other hand the teacher has the opportunity to put vim in the work, to keep every pupil busy thinking and doing during the whole lesson period, and to interest them in hunting for new and original proofs. If the teacher shows activity and spirit, it will be readily reflected in the attitude of the pupils towards their work."

Neither must we as teachers of geometry forget that the parents of our pupils are insisting more and more that while secondary education shall have not a less but greater, educational value, that it shall also give the pupil a greater, or at least a plainer and cleaner "direct bread-winning power." But while we are teaching the pupil how to make a living we should not fail to teach him, at the same time, how to live.

Therefore (as Beardsley says), "The problem before us as teachers of secondary mathematics is the same as that before the educational world in general; viz., to develop each of the above two functions of education,—utility and culture—in a more explicit and powerful form, and if possible to combine them closely." For example, suppose we are teaching how to find the height of a pole from its shadow; we may ask ourselves what utility or culture is there in this problem worthy of presentation. Possibly it is so presented that the child fails to relate it with anything in an educational way. And yet under this simple problem is the great fundamental principle "of the value of an adapted auxiliary quantity in measuring another quantity or in obtaining any desired result." Too often the unit of measurement is entirely lost sight of, and yet it is the key to the solution of nearly every problem of any importance. In just such a simple problem as the one above there is often found a principle reaching down to the foundation of all cultural life as well as up to all technical work in the world.

The teacher must remember that he is teaching the subject not for the benefit of himself but for the benefit of his pupil, and that this pupil, being a beginner in the study of demonstrative geometry, can not appreciate, as he will sometime thereafter, the very delicate and logical considerations involved in a science so thoroughly abstract as is geometry. Therefore let us be rigorously honest with ourselves—let us give up the meaningless pretense, so often claimed, of teaching rigorous geometry to beginners—boys and girls about 14 or 15 years of age. And let us quit trying to crowd into a single year, as Prof. Moore, of the University of Chicago, says: "More material than a young student can possibly absorb." Think of the numerous, and generally meaningless, definitions, the one hundred and sixty or more propositions, the many corollaries, and pages of, shall I say,

poorly graded originals found in the usual course. Is it any wonder that, so often, we secure only a mechanical repetition of these things, and that geometry becomes a meaningless part of the pupil's mental equipment?

Here let us take refuge in Professor Klein's definition of elementary mathematics. He says, "In all domains of mathematics those parts are to be called elementary which can be understood by a pupil of average ability without long continued special study." In the light of this definition can we not afford to omit those things which experience has proved to be of little or no value, and those things which can not be comprehended, as the theory of limits? Touching the theory of limits,—Professor H. E. Hawkes, of Yale, writes:—"In ten years experience in teaching geometry to students from schools, carefully prepared by the best of teachers, I have not met a dozen who understood the theory of limits." This only proves that we are trying to do that which can not be done at this period of the child's mental development. When we high school teachers come to recognize and conform to Prof. Klein's definition of elementary mathematics, and no other kind has any business in the high-school course, then no longer can it be charged against us by the hard-headed and successful business men of the world that "mathematics is a science in which we do not know what we are talking about and do not care whether what we say about it is true." And until we make mathematics more expressive of modern conditions, these things will be charged against us.

If the subject is lifeless and uninteresting to the pupil, the fault rests principally with the teacher, for in the science of space-relations the poorest text, however badly put, is nevertheless true, and being true can be made interesting to the pupil, provided life and action appear in the teaching of it, for "our civilization craves action, and a subject that loses contact with life is doomed."

I am sure no one will charge Herbert Spencer, in his work, "What Knowledge is of Most Worth," with being a defender of mathematics for mathematics' sake, and yet under his discussion about the importance of the various sciences, he places elementary mathematics, especially geometry, very high. Pardon the long quotation, but listen. He says: "For all the higher arts of construction, some acquaintance with Mathematics is indispensable. The village carpenter, who, lacking rational instruction, lays out his work by empirical rules learnt in his apprenticeship equally with the builder of a Britannia Bridge, makes hourly reference to the laws of quantitative relations. The surveyor on whose survey the land is purchased; the architect in designing a mansion to be built on it; the builder in preparing his estimates; his foreman in laying out the foundation; the mason in cutting the stones; and the various artisans who put up the fittings; are all guided by geometrical truths. Railway-making is regulated from beginning to end by mathematics; alike in the preparation of plans and sections; in staking out the line; in the mensuration of cuttings and embankments; in the designing, estimating, and building of bridges, culverts, viaducts, tunnels,

stations. And similarly with the harbors, docks, piers, and various engineering and architectural works that fringe the coasts and overspread the face of the country; as well as the mines that run underneath it. Out of geometry, too, as applied to astronomy, the art of navigation has grown; and so, by this science has been made possible that enormous foreign commerce which supports a large part of our population, and supplies us with many necessities and most of our luxuries. When from this division of mathematics which deals with *space*, and *number*, some small smatterings of which is given in schools, we turn to that other division which deals with *force*, of which even a smattering is scarcely ever given, we meet with another large class of activities which this science presides over. And as the ability of a nation to hold its own against other nations depends on the skilled activity of its units, we see that on such knowledge may turn the national fate. Judge then the worth of mathematics."

From this we perceive that Spencer gives us the virgin field of the "Real Problem," for the real-problem movement, (as stated by James F. Millis, "is an attempt to reform the teaching of secondary mathematics by teaching the different subjects in relation to their uses in solving the real problems that are actually encountered in life." Problems devoid of human interest should have no place in the course. Those that have, will lend motive and interest to the work. Only such problems as "can be made to function in the actual life of the individual, that is, real problems, have a real educational value." But this imposed restriction limits the field, for that problem which is full of human interest and meaning for Mary Ireland is, because of his want of like experience, as barren as the Sahara for Jan Jansen. Prof. Geo. W. Myers, like Spencer, makes geometry serve "as the vital bond of a unified mathematics, connecting firmly the various topics whose disjunction we have all deplored, and whose correlation has been so earnestly, if not mistakenly, sought." (Rietz).

Therefore as to the subject-matter on which we may base our expectations as to geometrical results, it seems to me that it should be about as follows, viz., such subject-matter as will ground the pupil in;

- (1) the general concepts of the fundamental notions of plane geometry;
- (2) the triangle and its properties;
- (3) the circle and its properties;
- (4) the principles and laws of similarity and proportionality and how to apply and use them;
- (5) the theory of loci;
- (6) the subject of measurement;
- (7) the subject of areas, solids and the formulae for the same;
- (8) geometrical constructions;
- (9) how to attack an original;
- (10) mathematical computations through the use of formulae.

While the subject-matter must be in keeping with the child's nature and so written and presented as to combine the utilitarian and cultural in a judicious manner, yet from the very nature of the subjects, algebra and geometry, they imply hard work,—hard thinking,—for both teacher and pupil. But to live and accomplish anything worth while implies hard work, and he succeeds best who learns to interpret the many symbols of his environments most easily, harmoniously and truthfully. Algebra is a volume of symbols and these symbols must be translated in terms of some function of time. Geometry is another volume of symbols, the translation of which must be in terms of space. Now study is an interpreting process and the problem of the educator is, how can the best and the most economical interpretation be obtained and at the same time leave the student with power to apply the results in his problem of life.

No truth is the pupil's own unless it can be applied by him. No truth has any value for the pupil unless it becomes an instrument of further investigation in his hands. Knowledge *about* a subject is not knowledge *of* it. But how can he, with his interests centered mostly in the social world, be led to become interested in the interpretation of abstract time and space relations? How can he make these truths his own? Only by study and investigation under competent guides. For until the learner has acquired clear concepts in the two fields of time and space relations and has acquired mental ability sufficient to coordinate each of these two sets of relations and to infer, according to the laws of logic, the resulting conclusions, he is not educated, and can not easily win in either the business or professional world.

Hence the results we may reasonably expect must be results which will end in preparing the pupil to enter upon life equipped not only to live, but also to make a living for himself and his family.

These are but three great worlds of relations; viz., relations of facts, relations of ideas, and relations of ideals. Relations of facts give us the world of physics, an ever-changing world, in which the old is ever becoming obsolete, giving way to the new; e.g., the oxcart has been replaced by the automobile; the moveable novel type by the linotype machine.

Relations of ideas give us the world of metaphysics, also an ever-changing world, in which the six-day creation has been replaced by the nebular hypothesis, and the 6,000-year-old Adam by evolution.

Relations of ideals give us the world of mathematics; but here unlike in either of the two preceding worlds there is no loss; mathematical truths never become old, for ideals are, in essence, eternal. New ideals may be conceived, and so new truth may be discovered and added to the great body of universals known. But never can one mathematical relation swallow up a previously established relation. There will never be a new multiplication table.

In the words of Bordas-Demolin: "Without mathematics no one can fathom the depth of philosophy. Without philosophy no one can fathom the

depth of mathematics. Without the two no one can fathom the depth of anything."

Finally, in summing up, as to the results we may reasonably expect, in mathematics, of a normal high-school student, given such subject-matter and teaching as above outlined, our generalization is the following:—

1. A usable knowledge of the facts of elementary mathematics.
 2. The ability to appreciate that definitions are generalizations of limited concepts.
 3. The power to express certain relations in mathematical language by means of conventional symbols.
 4. The ability to interpret and translate certain formulae.
 5. The habit of expressing clearly and concisely a mathematical thought.
 6. The meaning of the laws and operations in algebra, and of a proof in geometry.
 7. The acquiring of some knowledge as will end in a sane handling of the equation.
 8. A clear perception of the logic of relations.
 9. An ability to observe, compare, discriminate and generalize.
 10. The power to appreciate that algebra and geometry are tools to be used in attacking any mathematical problem, in text or life.
 11. The ability to interpret and discuss a solution.
 12. The ability to appreciate the notion of a function.
 13. That training in logic which rises to the plane of education, perceiving that "rules are mischievous so long as they are necessary; it is only when they are superfluous that they are useful."
 14. A mind so developed that it perceives;
- (a) That mathematics has a practical or utilitarian value, in that "all subsequent mathematics, the theory of astronomy, of physics and mechanics, the fashioning of guns, the computations of ship building, of bridge building, and of engineering in general, rest upon the operations of elementary algebra" and geometry.
 - (b) That it has an ethical value which it possesses in common with every subject whose aim is the search for truth. But as Cauchy, the French mathematician, said, "Let us not imagine that we can attack history by formulae or employ the theorems of algebra and the integral calculus in the study of ethics."
 - (c) That it has a cultural value. And from this stand-point note the following from Professor Hudson's "On the Teaching of Elementary Algebra." He says: "I maintain, therefore, that algebra is not to be taught on account of its utility, not to be learned on account of any benefit which may be supposed to be gotten from it; but because it is a part of mathematical truth, and no one ought to be wholly alien from that important department of human knowledge."

- (d) That it teaches one how to appreciate and enjoy hard work, for "life is hard work," and if pupils have never learned in school "to give their concentrated attention to that which does not appeal immediately," they have missed the most valuable lesson in their whole course.

And finally, theorize as we may on the pedagogy of mathematics, we must admit that, in the end, algebra and geometry will pay us about in proportion to the time we give to them. Something for nothing here is as impossible as in the commercial world.

The boys and girls of our public schools are in the valley of youth. They behold many peaks about them, one of which, high and rugged, is known as the Mount of Mathematics. 'From its summit the view is both sublime and magnificent, but he who reaches its summit must be a vigorous climber. There are many paths up this Mount, but not one royal road. Neither can these youthful pilgrims find conveyances provided; each one, with his guide, must ascend step by step through his own efforts; the guides may differ among themselves as to the best path, but whichever path is chosen the end is the same. Some of the pilgrims are called back to the plane of bread-and-butter before they reach the summit; some only climb a hillock, at the base of the mount; and sometimes, others are led to believe that this mount is "too old to be climbed, as if that affected the view," or that the magnificent view from the summit can be as well obtained from a "painted panorama" as seen from a rubber-tired car, passing by the base of the Mount.' But time and experience will reveal to all who care for the revelation that he who climbs the highest finds in his view that which no one below him can find or appreciate; and so it comes to pass that each climber is rewarded according to the height he climbs,** that self-effort brings individual reward.

Therefore every true guide worthy of a place among these climbers will help and urge all pilgrims to ascend the Mount as far as possible; and will so help those who can ascend but a little way that they will forever carry with them something real of this magnificent and powergiving world view, something of value to the individual pilgrim in his battle of life. Not the path to the view, but the view itself is the big thing, the one thing necessary.

SOME ESSENTIALS FOR SUCCESSFUL WORK IN HIGH SCHOOL MATHEMATICS.

PRINCIPAL L. A. MCDIARMID, ALBION.

For a few years back a spirit of criticism has existed in regard to the teaching of high school mathematics. Very learned men have written scathing articles on the impractical and unpedagogical methods employed without giving any very definite remedy therefor. We have been scored, and perhaps justly, by our college and university friends for our lack of thoroughness in the theoretical, while, on the other hand, the business man complains, and justly, because the High School graduate is inaccurate and often incompetent in the ordinary computations. The teacher is "between the Devil and the deep sea," so to speak. The demands are widely different and if the teacher tries to conform to both he reaches neither. The ideal plan would be for high schools to offer two distinct courses, one to fit the pupil for practical business life or for office work and the other as preparatory for college or university work. However if this were to be done the school authorities would step in with the question of expense.

No one will question the desirability of thorough grade preparation, but so long as the poor grade teacher has to conform to the fads and hobbies of the present we can not expect much more effective work than we are receiving. But I do think that mental work, from the first grade up, should be given much larger place. By "mental work" I mean, not work placed upon the board and pupils given time to count or guess at the answer, but with book and board discarded let the teacher stand alert before her class and give mental problems for the children to solve mentally and quickly. This method followed for a few minutes at the beginning of each recitation would work marvels by the time the high school is reached. I would not place grade preparation as one of the essentials, for every pupil who has ability to reach the high school has ability to master high school mathematics.

I do not claim to have found all the requisites for successful work but after some years experience I have decided that there are some essentials and these I shall try to indicate here. As perhaps the first and greatest factor I would place the teacher. He should be, not only thoroughly prepared, but alive to the subject, and not like a Normal teacher in this state who has been quoted as having said before a meeting of public school teachers that he did not see any use in ninth algebra, save as a preparatory subject. The quicker teachers of that kind change their occupation the better for our schools. A teacher should have a broad enough vision to select and arrange his work for the best interest of his class and not follow blindly the text provided.

I have tried to point out some of our difficulties and now comes the

question of how best to meet these conditions. Prof. G. W. Myers of the University of Chicago, in a series of articles in *School Science and Mathematics*, gives an outline of work as set forth in his text books. He says: "The Text First Year Mathematics was put into the hands of our classes three years ago. Since then first year classes have used the text which puts notions of arithmetic, algebra and geometry together. In the second year we set about a more intimate interweaving of algebra and geometry." Although Prof. Meyrs says this method has been criticised by university authorities I believe it is a long step forward.

When we consider the different things of which our children in the grades have to get a smattering I am sure we can see that a very thorough knowledge of any one subject can not be expected. When we try to crowd too many things into the grades something must be neglected. For this reason we should not teach algebra and geometry in the grades, but leave them to their proper place in the high school. But some will say "Is not every child entitled to a little algebra and geometry and all can not reach the high school?" Better no knowledge than only enough to cause a lack of interest in, and respect for the subject. A child well grounded in arithmetic is better prepared to meet the problems of life than if he had a smattering of arithmetic, algebra and geometry. Also the child who enters high school goes into algebra with more zest than if he were going over partly familiar ground.

When children enter high school if they are not already prejudiced against mathematics the high school teacher has an opportunity to make his work most interesting, and to open to the pupils an attractive vista for the years to come. Even prejudice may be overcome in a short time by the really tactful teacher.

Algebra should be a continuation of arithmetic on a broader basis. It should be taught in the light of what the pupil already knows, and not as an entirely new subject. If conditions will permit, the best mathematics teacher in the school should be given ninth grade algebra for upon this foundation must be builded the whole course. The teacher should use good judgment in the selection and arrangement of subject matter. A few weeks ago a telephone call asked this question; "Would you teach the problems on pages from and to" naming the book and pages. Looking up the problems in question I found them headed "Practical Problems" then followed 30 or 35 problems on the raising of cotton. These no doubt would not appeal to a Michigan pupil. If the text does not furnish problems of interest to that locality the teacher should find them in some other text or if need be, in the gray matter in his own head. Practical problems, by all means, but make them interesting as well as practical! Some one will ask; "Can all parts of algebra be made equally practical and interesting?" the reply in Yankee fashion is: "Can all parts of history or English be made equally attractive and practical?" Some parts of algebra, such as the remainder

theorems in factoring, Euclid method of L. C. M. and complex fractions, should be taught very lightly. I do not believe in teaching the graph in ninth and tenth grade classes though Prof. Mayrs, before quoted, gives this as one of the subjects in his First Year book. We plan to complete the first years work with evolution.

Second year algebra is often taught with no reference to the work of the preceeding year. Is it any wonder pupils dread algebra taught in this manner? Can you imagine any thing more uninteresting than Theory of exponents or Radicals taught as disconnected subjects? Why do this when they may be made real and interesting by showing that they are but continuations of the fundamentals and evolution? Can you imagine a pupil not being interested in knowing that the $\sqrt{75}$ may be expressed as $5\sqrt{3}$ as well as by extracting the square root to several decimal places? Or that the fractional exponent is only another way of indicating the roots of numbers? Quadratics is perhaps the best taught subject in all algebra, and yet how many teachers ever think of showing that completing the square is not a new subject but is only allowing the pupil to supply the third term in the square of a binomial, or that the formula method is only a variation of completing the square? I believe a large proportion of the high school pupils never realize from where or how the formula is derived or could obtain it for themselves. The applications of quadratics are numerous and need no criticisms here. I think 10th algebra should close with proportion though in some texts several subjects must be passed over to find it.

Throughout the first year and a half of algebra continuous drill in mental work should be given. Any ordinary pupil can readily factor, reduce fractions to lowest terms, solve short problems in multiplication and division, raise binomials to any power and polynomials to the second power mentally. Time spent in this practice is well invested for in after years the pupils continue the mental processes, thus saving time and energy. I also believe that completing the square and formula method are proper mental processes. It has been my experience that high school pupils (and even some Normal students) can readily do this and by practice become very rapid in the process. Theory of exponents and Radicals are also good mental exercises.

The high schools generally are, I believe, given credit for doing fairly good work in plane geometry. This should be presented in the light of algebra, in fact should be very intimately interwoven with not only algebra but also arithmetic. We often hear from teachers the complaint that so many theorems and exercises are superfluous, that with so much ground to cover the work can not be thoroughly done. A few theorems may be superfluous but I never yet have seen too many exercises. Pupils that solve the exercises of any current text will have something in geometry that will serve them well in after years. And here again my argument for mental work will hold. If the teacher is expert in this work he can direct his pupils to the short cuts, give the necessary explanations of figures and theo-

remains much more quickly than if he were confined to the book or the board.

Much of the success in Geometry depends on method of presentation. Pupils entering geometry for the first time have little or no conception of geometric terms, the nomenclature being new it is essential that even ordinary definitions be illustrated and explained. Usually a pupil has little idea of the requirements for a demonstration and if lessons are assigned without much explanation the beginner will soon be repeating the text verbatim with no clear conception of its meaning. To avoid memory work should be the aim of every teacher of Geometry. It is better not to be confined to the method of the text in use; though you may be using the best text in print a little variation is not a bad thing, and the pupil will not get the idea, that there is only one method of demonstration.

I am a believer in what Dr. Hinsdale calls the study recitation period, and do not believe we ought to leave the pupil to flounder around wasting valuable time and energy, when a moment of time and a word of direction will start him aright. I have been criticized for this method with the statement that the lazy pupil will loaf and let you do his work, but I still hold to it believing it is better to do the work for one lazy pupil, than that ninety-nine conscientious ones should be discouraged.

As the class progresses in the subject the amount of explanation should decrease, but never should work be assigned without first calling attention to the important and difficult parts, that the pupil may be able to choose the necessary and important.

Work on the board should be accurately and quickly done. A good plan is to have the figure drawn with only what is given and what to prove written, the demonstration to be given orally and not infrequently by other than the pupil drawing the figure. I do not ask for written demonstration oftener than once a week. Oral demonstration promotes exercise and pupils forming the habit of oral work become stronger and more rapid in their mental processes.

The practical and essential in solid geometry are not quite so numerous nor easy to explain. Many school-men say girls should not attempt the subject but it has been my experience that the girls of my classes do quite as good work as the boys. Solid Geometry like the preceding subjects should be taught as an advance on a road already explored. The end to be attained is to give to the pupil a better conception of form and size, and combinations of planes, lines and angles. If presented as a part of what they already know it may be made an interesting and delightful study. The pupils are interested in knowing that the intersecting of planes are but a continuation and have many of the same conditions as the intersecting of lines, while the study of the pyramid, prisms, and parallelopiped are closely related to the triangle, parallelogram and polygon, while the cone and sphere should be treated in the light of the circle.

Our fourth year course is designed for those students only who expect to attend college. It takes algebra review and trigonometry. For a number

of years I have taught these religiously following the combination theory. Here also we take up more thoroughly the theoretical thus trying to conform to the university idea of the practical. In this year algebra subjects, touched but lightly in the first two years work, are thoroughly studied and to these are added the subjects of Variation, Progressions, Imaginaries, binomial theorem with fractional and negative exponents, and continued fractions. The algebra finishes with a thorough drill in Logarithms passing easily and naturally to Logarithms in trigonometry which are followed by trigonometry proper.

The subject of trigonometry now being taught in many of our high schools has been purely a preparatory subject but it is not at all difficult to find the interesting even in this course. I have a class of twenty-five boys and girls and they are as alive to the purely theoretical as to the practical. I have found that pupils taking this course have without exception been successful in college and university mathematics.

I found a short time ago an article by Prof. Austin of La Crosse, Wis., which accounts for my perhaps unusual views on the subject above mentioned. He says "Education to the *Scotchman* is an internal soaking in process." He believes there is such a thing as the correct mastication, digestion and assimilation of educational food as of physical food. No well defined boundary lines can he see, the branches merge into each other, overlap and thus form a network of material for study. He cannot see for example, where arithmetic leaves off and algebra begins, where algebra leaves off and geometry begins nor where geometry leaves off and trigonometry begins. His plan of work is based not so much upon the spirit of the spiral system as on what may be called an enlarging concentric circle method. And when we of America can get this broad view we shall be nearer the goal.

In conclusion I would say that while high school mathematics are as old as the high school are they not in a formitry or experimental state? Are not the signs of the times encouraging to him who reads aright? Is there not always hope of improvement when one realizes his own short comings? Are we not willing to investigate for ourselves and to try methods found useful by others? Are not the facts that teachers of note are writing articles on all questions of high school mathematics and that we are reading these articles good omens? But is it not *essential* that our Normal College and University friends look well to their part in training and inspiring the new teachers who each year go forth to impart their knowledge to the pupils? I am perhaps optimistic in my views; but when I compare conditions now and a score or more years ago when I was a high school pupil, I can but hope for the future. I think the time will come when the teaching of high school mathematics will be an *art* as well as a science, when teacher and pupil alike will be inspired with a love for his work and when the development of the mind or preparation for a university course will be considered as practical as the purely commercial use.

PHYSICS AND CHEMISTRY CONFERENCE

THE PREPARATION OF GRADE TEACHERS IN PHYSICS.

PROFESSOR JOHN E. FOX, WESTERN STATE NORMAL SCHOOL, KALAMAZOO.

We have heard much during the past about the preparation of students in physics for college, likewise during more recent years we have heard much about preparation in physics for life, implying that the two are widely divergent. I am not sure that our leading physics teachers would grant such a divergence, but somehow the impression is abroad in the land that physics must appear in the curriculum of our secondary schools because the college demands it as an entrance requirement, and the sole ambition of the high school is, in many cases, to meet the conditions imposed by college inspectors without giving a second thought to the possible other functions the subject may have. In discussing this subject "The Preparation of Grade Teachers in Physics," I believe that the work merits attention first, because of its present bearing upon the youth who are now enrolled in the primary schools and who will never enter the high school, and second, because of its bearing directly upon the preparation, for subsequent work, of those who enter the high schools. I would recognize too that the grade teacher forms a fragment of that promiscuous mass known as life, and is entitled to some consideration.

The question at once arises—Should physics be added to the curriculum of the grades? The answer is that it need not be added as it is already there. It is not labeled physics nor is it in the books so much as it is out of them. It is in the gathering cloud and in the falling rain; in the dew and in the frost; in daylight and in darkness; in the lightning and in the thunder; it is in the hot sun and in the chilling blast, and in a dozen other phenomena of nature. Along with natural events it crops out in artificial things. Machines of every description abound on every hand and the growing mind of the child is naturally a bristling interrogation point about these things. The view that the grade teacher needs no preparation in physics because physics does not appear as a regularly scheduled subject is a very narrow one.

It is pertinent to examine the situation as it now exists. Our grade teachers, in the city, are mostly high school graduates with a year or two at the Normal School and if rural teachers, a year or two at the high school with about the same time at a Normal School or more frequently with no Normal School training at all. Of those who will have had training in physics by far the larger number will have had none beyond the high school. In view of this situation it is perfectly legitimate to examine high school physics from the standpoint of the aid it may give the grade teacher. Be-

fore doing this I wish to examine the work required of the grade teacher, to see if this requirement can be filled by the preparation given in the high school without serious mishap to the other functions of the high school course.

It seems to me that the work required of the grade teacher will consist principally in aiding in the formation of correct initial concepts or image cores around which to build later. She can stimulate a hearty observation of things going on outside of school which are essentially within the realm of the subject. She can gradually build the vocabulary and can lay the beginnings of problems to be worked later in the high school. She can make use of toys for the creation of interest in things mechanical. She may even equip a laboratory, if need be, composed mostly of models of things used in practical life. It is decidedly important that she does not forget that she is illustrating laws that are important outside of school in practical life, and that the pupils get this understanding. Differences of home environment would be less and less apparent through the leveling influence of the school. This work may not properly be called physics but it is the seed from which physics will grow and without which it will not grow. The rather recent advocacy of simplification of the subject matter in high school physics grew out of the paucity of ideas possessed by high school students and is but an attempt to bridge over the chasm. The older plan was to formulate the subject matter without regard for the mental status of the learner. Had the grade teacher been alive to her opportunities much of this cry for simplification never would have arisen.

Such a procedure as that outlined above would hold many pupils in school who leave to go to the shops at the end of the eighth grade. They cannot see how going to school will further benefit them. School seems to them to have little connection with life. They can read, write and compute and that seems to them to be sufficient. But implant within them the spirit of observation and investigation with the assurance that their questions will be solved with the help of the school, if they continue, and many of those who now leave will continue in school.

Returning now to the statement that grade teachers receive nearly all their training in physics in the high school, it is proper that we consider the aim in high school physics in order later to justify proposed methods. We wish also to note whether this aim will allow us to incorporate the preparation of the grade teacher. You are all familiar with the discussion stirred up by that report known as "The Symposium on the Purpose and Organization of Physics Teaching in Secondary Schools" published in 1908 and 1909. Here are a few representative answers:

(1) "The aim of the instruction in physics is the general educational aim."

(2) "The fundamental purpose of physics in secondary instruction can, however, hardly be other than 'training for power'; by which is meant that training which will enable the student to grow in the power of clear

thought and vision, training which will cultivate in him a wholesome respect for the essential facts in the case, and will lead him to respond reasonably and ethically to every circumstance which confronts him."

(3) "The great purpose should be to bring the pupil to understand as fully as possible the laws and principles underlying the natural phenomena constantly taking place about him."

(4) "There are at least two important aims in teaching physics; first, to give interesting and at the same time useful information about the facts of the material universe, and, secondly, and the more important of the two, to develop the pupil's powers of observation, to train him to work systematically and intelligently, and to reason from facts observed to general underlying principles."

There is certainly nothing in the foregoing to embarrass our claim that grade teachers have a right to expect aid in their work from their high school course. The question is do they get the largest amount possible commensurate with the time spent in the subject? It is with the feeling that they do not that I am bold enough to contrast a couple of methods which are coming more and more into conflict, and which are worthy the careful study of every high school teacher of physics. The word *method* has an uncanny sound to many ears, yet methods there are, whether we think about them or not. Methods are hereditary; they pass from one generation to another. Perhaps I should say they are contagious; they are caught by one teacher from another and here is where they may work good or evil upon the grade teacher. Normal schools have been blamed because it is supposed by their critics that they attempt to build up specific methods for doing everything. The work in the Normal School today, along this line, consists rather in putting the prospective teacher in possession of the facts not only of the subject she is expected to teach, but also to call attention, so far as is known, to the conditions under which thought is generated in the mind of the pupil. Any method which ignores this latter certainly comes short of its possibilities. Dr. John Dewey made this matter plain when he said, "We define science as systematized knowledge, but the definition is wholly ambiguous. Does it mean the body of facts, the subject-matter? Or does it mean the processes by which something fit to be called knowledge is brought into existence, and order introduced into the flux of experience? That science means both of these things will doubtless be the reply, and rightly. But in the order both of time and of importance, science as method precedes science as subject-matter. Systematized knowledge is science only because of the care and thoroughness with which it has been sought for, selected and arranged. Only by pressing the courtesy of language beyond what is decent can we term such information as is acquired ready-made, without active experimenting and testing, science.

"The force of this assertion is not quite identical with the commonplace of scientific instruction that text-books and lectures are not enough; that the student must have laboratory exercises. A student may acquire laboratory

methods as so much isolated and final stuff, just as he may so acquire material from a text-book. One's mental attitude is not necessarily changed just because he engages in certain physical manipulations and handles certain tools and materials. Many a student has acquired dexterity and skill in laboratory methods without it ever occurring to him that they have anything to do with constructing beliefs that are alone worthy of the title of knowledge."

It is with a feeling akin to that expressed in the above then that I am going to contrast two methods which, as I have already said, are coming more and more into conflict. As to which is the better plan I call you to witness. The first plan is the plan more generally used and has the advantage of being pretty well formulated in text-books. To work out the second plan will require much thinking, much non-conformity, and a personal participation on the part of the teacher and pupil alike in every move.

The first method is what might properly be called the synthetic method. It is defended as the logical method. It begins with definitions and laws and accumulates these against the day when they will be needed. When this method is called in question it is defended by its champions with reference to the plan of the great founders of the science, with the implication that it is sacrilegious on the part of any ordinary pedagogue to call it in question. It is doubtful whether the great men who first formulated the subject of physics thought things out in the way they afterwards wrote them down.

The other method I wish to discuss briefly may be called the analytic method. Phenomena and processes present themselves to our senses as problems to be solved, the answers to which reveal general laws. The student does not attempt to rediscover the laws of physics but his mind travels over the ground, somewhat after the same manner as the discoverer and the same joy of achievement, in a minor sense, is his. If the teacher can show him the problem, he may be trusted to work largely as he is moved to do. All available texts are at his disposal though it must be admitted that it would expedite matters to have a text written on this plan. If in his problem there is need of a word, to define or describe a property, he finds the one in common use and thus naturally learns a definition. Persistence of phenomena lead to the observation of laws that are already formulated for him, and which he soon incorporates into his thought. The problems grow out of daily experiences, and laboratory phenomena which he conditions himself.

In contrasting the analytic with the synthetic method a writer has this to say: * "The analytic method is the method of the * * * worker, the synthetic is the way he usually presents his results. * * * Each step in an analytic method has its reason, its purpose. In the synthetic method the steps follow more or less blindly; the truth of each is evident but why this step should be taken rather than some other is a mystery and the final result is often reached with a disagreeable shock. For permanent record, in print-

ed books for example, the synthetic form has the advantage of being more finished, more certain, more formal, while the analytic method is informal, tentative and, when reduced to cold black and white, may even seem colloquial."

The foregoing was written by a teacher of mathematics in discussing methods of teaching that subject but is it not also applicable to physics? Why, for instance, do our high school texts proceed almost invariably on the synthetic plan? Because it is the logical order. It is "more certain, more finished." It is the order of the classical age and writers are loath to depart from it. However the fact that our texts are written in this manner should offer no deterrent to those teachers who wish to try another plan. It is a pity that text-books play so important a part in determining method in our schools. If the texts could be subordinated to the needs of the class, our present texts would be sufficient to fill our needs.

To define more clearly the analytic method I am going to risk giving an illustration. I trust it will be understood as an illustration. Suppose I begin the study of light, for example, not with a definition of light, but let me organize my materials in optics as they are suggested to me should I undertake the problem of making a picture by the photographic process. I see by the program for this afternoon that some of my colleagues are interested in this problem. When I begin to take note of the things which enter into the making of a good picture, one of the first things I will become interested in will be the effect of the stop and in order to understand it I work out the problem of images through small apertures. My text-book will aid me in doing this. Next I shall probably become interested in lenses and their effect upon the image. I am thereby brought face to face with the principles and laws of refraction. I cannot work much without getting an idea of focus and focal length. Some of my friends claim to have a better lens than I am working with and I began to look up the meaning of lens defects and their remedies and I have a reason for searching out the meaning of astigmatism and anastigmatic lenses and their construction. When I have made my exposure and go into the dark room to develop my negative I am instructed to use a red light and to satisfy my curiosity as to why I do this I become acquainted with the wave theory of light and the gamut of ether waves with their various lengths and properties. When I examine my negative I am made conscious, in a vital way, of the meaning of such terms as opaque, translucent and transparent. In photographing rapidly moving objects my attention might be directed to the speed with which light travels. Should I become sufficiently interested in photography to undertake autochrome work, I will be motivated to dig still more deeply into the mystery of color. Thus there is hardly a topic in optics that may not be motivated by the task, the making of a perfect picture. The conventional way of teaching light has been to study about all these topics in order that they may be on hand when needed. The camera and the opera glass and the microscope have been carefully concealed until you should be able to appre-

ciate them. Concerning the photographic process it may be said that photographers who turn out fine work frequently do not know the answers to the questions I have indicated. The answer to this challenge, in my opinion, is that they may not be able to say so many *words* about these matters as the high school graduate, but they have more *ideas*.

Such a procedure as the foregoing would surely prove of benefit to the grade teacher. Stimulation to observation of phenomena which are essentially physical in their nature is just as legitimate in the grades as are the biological subjects with which our nature study courses are so crowded. The reason they have not been so considered is largely because there was no available method in the mind of the teacher.

It may be asked by some of my hearers why I selected the subject, "The preparation of Grade Teachers in Physics," and then devote the most of my time to a discussion of high school physics. My answer is that high school physics is a part of a work which begins in the primary school and may extend through the high school to the college and the university. The high school occupies a middle ground and certainly has received enough attention from the college and the university. It therefore seems justifiable to look the other way, with the hope that sometime in the near future we shall see a rational sequence from the primary school through the high school to the college or university without a sacrifice on the part of those who from force of circumstance are obliged to terminate their schooling at any station along the route.

BIOLOGICAL CONFERENCE

THE IMPORTANCE OF FIELD WORK IN BOTANY AND ZOOLOGY.

PROFESSOR LEROY H. HARVEY, WESTERN STATE NORMAL SCHOOL.

A very superficial survey of present day Secondary Education suffices to convince even a non-educational observer that, notwithstanding extraneous combative influences, the High School is more nearly meeting the interests and needs of its constituency than at any previous time in its history. And, to those particularly interested in Secondary Education, it is extremely gratifying that the "hand-writing-on-the-wall" unquestionably indicates that it will increasingly continue to do so. The "college of the people" to-day, with no uncertain determination, concentrates its best thought and endeavor upon its specific function—the diagnosis and prescription to meet the indi-

vidual life needs of that vast majority of its matriculants whose scholastic work will terminate with High School graduation.

Modern Secondary Education rests securely upon the principle that it functionates primarily to provide that, which not only makes for efficiency in the prosaic struggle for livelihood, but which also equips the individual with ability to better care for himself, to enjoy life and to realize and fulfill his obligations to society, in short, to train for a better and broader citizenship appears to be the motivating ideal of Secondary Education.

However, it remained for the Elementary School to fully realize that "man is as fundamentally aesthetic and emotional as he is cognitive and rational" and to adequately provide for such in the make up of the curriculum. Nature study in the Graded School is vigorously endeavoring to maintain and develop this fundamental parity of feeling and intellect in the child. It is striving to seize the child's initial relation with nature and build upon it, that it may broaden his interest in and deepen his love for nature and increase his capacity to enjoy her. That these earnest efforts are being richly rewarded is plainly apparent to all who have dealt with the Graded School product who has enjoyed the advantage of instruction in Nature Study, Garden Work, and Hygiene. Such elementary training develops an element of yearly increasing significance and one which demands most thoughtful consideration on the part of Secondary educators, for with it comes a splendid impetus born of observational training, and a knowledge of and an enthusiastic interest in nature. The ninth grader of to-morrow will be equipped with a surprisingly wide contact with nature and a fertile enjoyment in her manifestations. Upon High School Biology devolves the great responsibility of organization and unification of this biological nature knowledge. No less great a responsibility demands the refining and intensifying of the æsthetic component, which is, I believe, of equal importance to him in the future pursuit of health and happiness.

We all recognize that the post-diploma activities of more than 99 per cent of the High School graduates are far from the laboratory with its microtome, stains, and compound microscope. Rather the student's biological contract will be had largely along lane and street, in park and pool, and in dealing with problems in personal and public hygiene and sanitation. The assurity with which present day teachers of Secondary Biology contend that field work should occupy an increasingly large proportion of the time allotted to Biology is an indication of their appreciation of the real future need of the High School student.

Besides meeting more nearly the real life need of the student, there are certain educational virtues *per se* which recommend the field to the disadvantage of the laboratory. I think many of us feel that much of the laboratory work is too artificial and partakes too much of the nature of a chore, rather than of the solution of pertinent problems, and at its very best falls short of accomplishing its very *raison d'être*, the training in the scientific method of thought and spirit. It has become a place for absorption of de-

tail structural information hazed by the almost insurmountable difficulty of section interpretation at tenth grade age, and the marooned nature of such study due to lack of time and material.

On the other hand, the field makes for genuine investigation and independence of observation. Emphasis is here upon "to see" and not "to draw." My own experience seems to indicate that the instructor is the essential factor to a much greater degree in Laboratory than in Field. Interest in field work is greater and the student is more encouraged to move upon his own initiative. Field problems are more tangible and, with a more practical bearing, are better suited to enlist efforts and interest. In the field the problem permits of attack under natural conditions, and its application is far more apparent than the necessarily detached exercise of the laboratory.

The course in High School Biology should I believe center about biological principles in particular, as they bear upon problems of every-day human interest and need. Evolution has too long been the central thought of secondary courses; important as it is, the time devoted to its presentation has been altogether disproportionate to the real need of secondary students. Therefore, I would advocate that field and laboratory work should depart from such a scheme of organization and deal with a series of problems evolving from the interests and future needs of a forming citizenship.

I may now venture to suggest some criteria for the organization of such a field course, believing that the particular problems must in the main proceed from the local situation.

1. Each trip should have as its object the solution of definite problems, a single problem if possible. Scattered observations upon anything which happens to turn up are of little value. Experience shows that unless observations are centered upon a single problem, results are of questionable value in proportion to time spent. Students of this age have limited power of correlation and, under stimulation of examination, are likely to pour out the observations, more or less completely, of a single trip irrespective of the bearing upon the question submitted.

2. Problems to be solved should be definitely stated, directions plainly given, and the field trip should be preceded by preliminary discussion with emphasis upon the bearing of the problem. The problem should be so stated that spirit of investigation is aroused, which should motivate the trip, and not the spirit of the picnic. The popularity of such work should be sourced in real interest in the nature of the problem. I think it is as essential to dignify the field and its problems as we are wont to the laboratory and class room.

3. The solution of the problem, when of such a nature as to permit, should be sought inductively as far as possible. Students should be held rigidly to observation and evaluation of data. Perhaps no quality of the mind is to be more desired. When such procedure is impossible, students might be led to assume hypotheses and put them to the test of observation. Noth-

ing can be of greater value than to realize essentials of proof and when assumption may become assertion.

4. Problems should be given a practical turn and every-day contact when possible. This seems to increase interest and the knowledge obtained is of far greater value, individually and socially, and because of its utilitarian tilt it loses none of its aesthetic or its training value. That knowledge is most worth while which is most useful. This is a practical age and good pedagogical tactics suggest the utilization of this interest.

5. Field work should be laid out with even more care and detail than laboratory work because of its inherent greater difficulty. This permits rigid requirements and exacting reports,—a procedure the need of which is painfully evident.

6. Destination should be chosen with great care and because it furnishes data for the solution of the problem, and not because it is a beautiful ravine or an inviting flood plain. The vacant lot may yield the desired data, and distraction is destruction to successful field work.

7. And finally sections should not number more than ten or twelve, as larger field divisions make for cumbersomeness and difficulties of administration.

COURSES IN AGRICULTURE AND SCIENCE.

PROFESSOR W. H. FRENCH, EAST LANSING.

A Course in Agriculture.

- 9th Grade.
- Agricultural Botany.
- 10th Grade.
- Farm crops and Soil elements.
- Horticulture and Entomology.
- 11th Grade.
- Live stock and Dairying.
- Feeding.
- 12th Grade.
- Soils and Soil Physics.
- Farm Management and Farm Mechanics.

A Course in Science.

- 9th. Grade.
- Botany.
- 10th Grade.
- Zoology one-half year.
- Physiology one-half year.
- 11th Grade.
- Chemistry.
- 12th Grade.
- Physics.

SUGGESTED COURSE FOR HIGH SCHOOL, ZOOLOGY.
To Correlate with Prof. French's Suggested Agriculture Course.
GENERAL STATEMENT.

PROFESSOR JESSIE PHELPS, MICH. STATE NORMAL COLLEGE.

The course in zoology must first of all set forth the fundamental principles of biology. Secondly, it must show the application of these principles to human life, 1st directly in the physiology, psychology, personal and social hygiene of man; 2nd indirectly through the agricultural industries that are concerned in the care, use and breeding of domestic animals and plants; and 3rd in the aesthetic, sociological and ethical relations of man in all aspects. It should be so related to man's working philosophy as to interpret many of the common phenomena of life, such as birth, death, life, heredity and most of life's problems. Pure enjoyment of life should be enhanced by the study of zoology. These larger problems can be no more than hinted at, but in the hands of a skilled teacher—such as the work demands, this can be done very effectively and with lasting results.

The method of attack should be chiefly laboratory, divided between field and indoor work. *The student should be led to state problems as far as possible and to devise means of solving them.* Individual, original and general work should be encouraged. Accurate observations and records should be insisted upon. Library work should supplement the laboratory. This should lead to a study of the methods of investigation employed by men of authority. The economic, aesthetic, and ethical applications of zoology should be sought out. The activities and interrelations of animals and the struggle for existence, should be made to illustrate the theories and evidences of evolution. The following outline of topics is suggested as meeting these ends:

I.

MAMMALS.

About four weeks should be devoted to the study of mammals. This should include the dissection of some small mammal such as a rat, rabbit or cat; the anatomy and physiology of every system of organs; history of the animal and its allies; adaptive features; vestigial organs; embryology of—general features of the early and later stages; study of reproductive cells and fertilization; embryos in uteri at three or four different stages; study of placenta and foeta membranes; birth; mammary glands; relation of number of young to care of young; birth rate versus death rate.

II.

BIRDS.

Two continuous weeks and some scattered work throughout the year,—mostly field work with emphasis on the economic side. Evolutionary history of birds, adaptive features, embryology. Study of reproductive cells. Study of the first four-day chicks. Comparison of breeding habits of precoces and altrices. Study of some wild birds in the fields with methods of exterminating undesirable and protecting desirable species. (See State, Government and Grange Bulletins.) Field problems of migration, breeding, feeding habits, etc., should be studies at beginning of course and continued for one full year unless such work has been thoroughly done in the grades.

III.

INSECTS.

Three continuous weeks' work and some scattered work throughout the year. Collection and identification started in fall and continued twelve months. Special group studies made of those insects peculiar to grain fields, gardens, orchards, shade and timber trees. General ecology of insects. Life history and relation to diseases of man and domestic animals and plants. Special study of the anatomy and physiology of two or three of the following are suggested:—tomato worm, silk moth caterpillar, grasshopper, fly, mosquito, and honey bee—the two latter both in larval and adult form.

IV.

GENERAL SURVEY OF ANIMAL KINGDOM

Use demonstrations as much as possible.

Three weeks.

1. Protozoa (Amoeba)
2. Coelenterata (Hydra)
3. Annulata (Earthworm)
4. Arthropoda (Crayfish)
5. Mollusca (Snail and Mussel) (!)
6. Fishes (Perch)
7. Amphibia (Frog and Toad)
8. Reptile (Snakes, Turtles)
9. Birds
10. Mammals

Histology—Study of type-cells in muscle, gland, brain, bone, blood.

I would have this course put in the first semester of the eighth, ninth, or tenth grades, preferably the eighth, and I would have it followed by a course in laboratory physiology and hygiene. The small amount of chemistry actually needed for the work in physiology must be introduced early in the course. This course can profitably be supplemented by a reading course in civic hygiene and in eugenics, which may come at the same time or later.

The work on mammals is placed first for pedagogical and ethical reasons. Pedagogically this procedure is from the best known and the most interesting to the least known; ethically it dispels at once the sense of shame that at present enshrouds that subject of human anatomy and physiology in pupils' minds and it also opens the door to full and free discussion, and gives an opportunity for personal instruction in matters of sex which may be demanded. If the work is extended over ten months, the order here given is urged; but if the course is only one semester in length, the order is immaterial and the needs of the particular school should, of course, be met. Perhaps the course would better correlate with that in agriculture if insects and birds come first and animals later. (Mr. French approves the order here given but would place it all in the tenth grade.)

COMMERCIAL CONFERENCE

PROPER DICTATION FOR SHORTHAND.

MRS. KATE WAINWRIGHT, CLEARY COLLEGE, YPSILANTI.

That word "proper" in the subject assigned may be an excuse for wandering for the point intended for discussion. However, we may presume it to hold within its grip all things productive of the development of efficient, reliable stenographers.

In the question of dictation we have always the two points, matter and manner. We place matter first, because it is through the gist of the matter dictated that the student is to be nurtured in the new life into which he is entering. And we must remember that it is a new world to him. Heretofore his correspondent has held no such terms as, "under separate cover," or "sight draft with bill of lading attached," and "commercial agency rating" is entirely foreign to him. But if our dictation matter be wisely selected it will open up the business world to him step by step, carefully but quickly.

There is nothing that begets life but life. So the live letter fresh from the business office, breathing of ambition, of hustle, of integrity, is so much oxygen into the latent fiber of our would-be business man or woman.

While we seldom obtain a perfect letter from a business house, yet each contains a spirit, an individuality, representing as many different personalities, which he will sooner or later have to deal and will be the same that will be dictated when they enter office.

Even the errors have a commercial value, for the student must correct these errors as he would a slip of the tongue from his dictator in an office, thereby gaining that perception which every business man so much appreciates.

We should take particular pains to procure letters from a variety of sources, especially such sources as we are constantly supplying with help; also letters containing technical terms, some describing parts of machinery, others with various bills of goods, foreign invoices, and occasionally a genuine dunning letter will give the student an insight into some of the intricacies of business life, especially if he should unwittingly transcribe that on a postal card.

Automobile catalogs are very good, as through them the student becomes familiar with terms which would otherwise appall a timid young girl in her first day's dictation in the office of one of these large manufacturing establishments.

But whatever the *class* of matter we use, we find that the seasonable thing is as attractive as a window display on Woodward Ave., and we display talent and create an appetite for our wares by dictating an order for coal at a time when that particular letter should be written, or an announcement of a spring opening at just the time when such openings are held, or campaign letters when the battle is on, and not leave them till a time when no one could care anything about those matters.

Then, too, the manner in which we dictate, the expression with which we talk to our students as though we were indeed the man at the office desk and each student our private secretary, will put a life, a reality into them and so inspire a zest, which would be lacking were we to use a monotonous, drawling tone or listless manner. Then, too, by this very expression we enable them to grasp the meaning and so write thoughts instead of words.

But in all our dictating we must remember that it is the rounded man we are aiming at.

To be satisfied with an ability to write 150 words a minute and that 150 to be words only, with the principal of a note transcribed "ple" and hay-seeders to develop in the process of transcription into the same kind of seeders as cedar trees, is coming far short of the mark.

Better a half dozen letters carefully explained, chosen to suit the needs of those particular students and dictated at a rate of 80 words a minute, than to work for speed only; for the student is the gainer to the extent that he assimilates, *and no more*. It is better to omit all footings of bills dictated

or if an extension be given, to change one figure and thus throw the student upon his own resource to produce correct results and to watch out for errors.

Dictate *will* instead of *shall*, and otherwise use the wrong word occasionally, to sharpen their wits.

We secured a bid to build a baggage room of concrete. All specifications were included, but we had to hunt around to disentangle the parts, so poor was the construction. We dictated it and said: "Bring back a bid that *you* would make, using this same material."

And so by our dictation, with one hand upon the student and the other on the place he is to fill, we may start within him a venture, train his self-reliance till the young man or the young woman shall get a vision of their calling and make ready for the fray.

COMMERCIAL ENGLISH.

MR. W. W. KNISLEY, FERRIS INSTITUTE, BIG RAPIDS.

I have been doing post-graduate work, these last two years, in psychology, not by reading Angell or James or Titchener or Thorndike or Wundt,—but by studying daily in by own home a certain little volume issued by the Great Author three years ago, bound in human parchment and full of illustrations of the fact that *expression is the great art of life*.

And I dare say, almost within hearing of the famous normal school of Ypsilanti, that no person, man or maid, is qualified to teach even if he has a normal certificate and a government license, who has not studied such a volume. (There are many editions.)

Get a copy of this human test on psychology, study it, and learn what things are important, what things are immortal, in education, then think on these things. Of them all the supreme one is *expression in human language*.

I am a teacher of bookkeeping, but I don't want to have cut on my tombstone, "He was a teacher of bookkeeping." Nor do I wish engraved on my monument, "He was a commercial teacher." I teach accounting, but I do not capitalize accounting. I would like to be remembered as a teacher of life. This is, I know, a very high aim,—to attempt to follow the Great Teacher of Galilee. He taught the highest form of expression—the Christian life. So as a teacher I would teach expression. If there is anything that a teacher can teach that is more eternally valuable, I'd like to know what it is. Not typewriting; that is merely a temporary tool. Not shorthand; that is an ephemeral occupation. Not arithmetic; business calculations are now performed most rapidly on machines. Not bookkeeping. I

do not believe that St. Peter is a bookkeeper. I think that Heaven's accounting is automatic, that its debits and credits, its goodwill and deficiency accounts, are recorded on the lives of humanity. Let the sinners in high places beware how they pile up accounts that are written in the tears of widows and the stunted growth of little children in the cotton mills, coal mines, sweat shops, factories, and tenements. No other records are needed to eternally damn the men and the institutions that are responsible for the enslaving of human beings helpless to save themselves. No credits of public libraries and educational foundations will be large enough to offset the charge against them.

I wish to emphasize the importance of English in the commercial course.

Lengthen the commercial courses. Make them powerful because of their English. It will pay. English study should give practice in expression. Brains grow by expression. An investment in the development of brains is the best investment from a business standpoint. Some phases of brain development (imagination, for instance) have been grossly neglected in the commercial courses. There is the field of the future. Work it. It will pay.

Commercial English has to do with practice in the use of words to express ideas. It is an art. Man expresses himself in action and speech, and by means of the arts of written language, music, drawing, painting, sculpture, and architecture. The growth of a people is indicated by the development of the arts. In school the natural order should be followed. The child first listens, then talks. He talks to obtain his desires. Later he speaks in public to influence people to do his wishes. He receives messages; he reads; he writes.

Let us have a course in English that follows the natural plan.

First, teach the student in the commercial course to *listen*. Everywhere the complaint of business men is the same: The boys can't take instructions; they don't do as they are told. I think they generally do not *listen* to instructions. The home is very frequently to blame for this; the boy at home is not taught to listen. Encourage the boy to hear all the good speakers he can and to give verbal reports of the speeches from memory. Not from written notes, but from memory. Thus he will learn the part attention plays in memory training.

Teach him to talk. This may not need emphasis. Our pupils seem to be good talkers. Yet I think that talking in school should be guided and watched. Talk helps the talker if it is well directed. After earnest listening the pupil should talk just as after careful reading he should talk, for talking is the digestion of reading and the test of listening. In his talking he increases his vocabulary by using the words he has heard others use. So watch the oral speech! Bear in mind that business is mostly done by talking. At the present time there is a great tendency to do much business through writing alone, still we orally use a hundred words to one we write.

In this training in talking, expressiveness is above grammatical cor-

rectness. Grammar grows out of speech, not speech out of grammar. Teach students the power of speech. Show them that men do what we desire only when they are persuaded, and that oral speech is the most persuasive. In learning to talk effectively the student will learn much of human nature and he will come to understand that in good conversation each one prefers the other and talks about his listener's interests and pleasures.

I cannot refrain from a gentle criticism of the public school language work: it seems to me too much of it is written. In the primary school there should be little written work, though there must be representation of ideas by drawing and modeling. Even in the intermediate grades, I believe there is too much writing. The children should be taught to talk right and to listen with attention, to observe and to report orally. Before the boy is in his teens, the common errors of spoken English should be weeded out of his speech. That's the time and the school must be the place, if the home cannot do it.

Public speaking should be a part of the commercial course. To teach public speaking is a duty the school owes to the state. Boys (and girls, too) should learn how to explain themselves in public life so as to command what they want in government, in the making and enforcing of laws. (And perhaps in the interpreting of the laws; why not?) Debating should be taught and there should be parliamentary drills. Business will be done to a largely increasing extent through corporations. So the business man must learn to talk in public and to take part in stockholders' and directors' meetings and he must understand parliamentary practice, or he will not win in business administration. Having facility in public speech and parliamentary law, he may easily and naturally enter political life and take an active part.

Reading should be in the commercial course. The student should read to gather information and to gain inspiration. His reading should be directed. A list should be ready for him to use in selecting books. His reading should be digested by *oral* reports. Not reading alone but talking after reading should be expected. As he is encouraged to hear good speakers, so he ought to be urged to read good books. Here's where and this is how he is to increase most his vocabulary. By reading, too, he will absorb style in composition. In business colleges there is little good reading, owing probably to the brief courses. They should be longer, and reading should be included. High school reading, I believe, fails largely because of the method of reporting on the reading. The reviews should be by word of mouth, not in writing.

Written English is the last and highest form. This is now offered in commercial courses. Listening, talking, reading, and public speech are neglected. What time is given to English is mostly devoted to written work. Even the babies in primary schools have written lessons! It is, of course, important that the business man be able to write good letters and excellent advertisements, but it is a fact that many of the best business letters and

"ads" are composed by the dictator's talking as if he were face to face with his correspondent or his imaginary customer, the talk being recorded in shorthand or on a phonographic cylinder and transcribed. I believe if the preliminary work of listening and talking, and reading and talking were well done, there would be great improvement in written English.

Written English in the commercial course should include the mechanics of composition, spelling, punctuation, and the rules of grammar. There should be much practice in copying clear, concise, convincing English, the kind that business men are studying. Much of this "plain copying" should be done on the typewriter, which will bring out clearly the mechanical errors of the copy. The composition work would be letter writing, advertising, and making reports of investigations in connection with commercial geography and other studies.

Grammar? We don't want so much formal grammar that the student becomes hypercritical. The use of language precedes the study of grammar. Grammar is useful in commercial English only so far as it helps; it must not hinder expression. There are grammatical puzzles and bones of contention that the business student is better off without. Nor is grammar or English as a study so important as character. After all humanity is more to be considered than its language. A student must not become so critical that it makes him or others unhappy. Perhaps a little story will show what I mean.

"A lady was calling on some friends one summer afternoon. The talk buzzed along briskly, fans waved and the daughter of the house kept twitching uncomfortably, frowning and making little smothered exclamations of annoyance. Finally, with a sigh, she rose and left the room. 'Your daughter,' said the visitor, 'seems to be suffering from the heat.' 'No,' said the hostess. 'She is just back home from college and she is suffering from the family grammar'."

Salesmanship should be a part of the commercial course, and advertising also. In both of these subjects there are opportunities for teaching English such as others cannot give, for here the English must be effective, must produce results, hence must be based on psychology and a knowledge of human nature. Here imagination comes in play and the student may have visions of business and civic progress; I say civic progress because advertising is coming to be a part of municipal administration.

One of the essentials in the teaching of English as I would have it taught is the example of the instructors of the school. They should all be users of vigorous and correct English. Then the students would learn much by imitation. I place that requirement first: teachers who use correct and vigorous English, especially in oral speech. They should be, not talkers merely, but men of ideas and facility of expression.

An expert teacher of penmanship says:

"In order to obtain the best results in the teaching of penmanship, the subject should receive attention from each department in the school. The regular penmanship teacher comes in contact with his pupils but for one

period in the day, and unless his work is seconded and followed up by his fellow-workers, little good will result. He does not advise the confinement of the study to the one hour of the day, but recommends that it be considered a *part* of the work of each department."

Let me adapt this to my subject and read it thus: In order to obtain the best results in the teaching of English, the subject should receive attention from each department in the school. The regular English teacher comes in contact with his pupils but for one period in the day, and unless his work is seconded and followed up by his fellow-workers, little good will result. The study of English should not be confined to the one hour of the day, but should be considered a *part* of the work of each department.

In a business school, as a rule, *all* the teachers are good penmen. Their everyday pen work is excellent. In their use of English, however, they are not so good. In fact, some are notoriously bad. They can see the value and importance of good penmanship, but they don't appreciate good English. Probably many business men don't appreciate it. A change is now noticeable, however. Business managers are beginning to see the money value of good English, especially in business letters, circulars, booklets, and advertising generally. One who looks to the future can easily see that the most valuable subject of the commercial course, for the student who is ambitious, is English.

One hindrance to better results in English is the teacher who talks too much. Some teachers evidently have never heard the old saying used by Ruskin: "No one ever teaches who wants to teach." You should get your pupils to talk, direct their discussions, ask questions that "wake up mind." All pupils have instincts and feelings; appeal to these and you will get expression. They all have had experiences; get them to connect the lesson at hand with their experiences. See that they apply principles to their own or imaginary conditions. They will become strong in English through talking. Besides, when they talk freely they will have thoughts as they talk which they would not have had at all if they had not talked. So induce, incite, inspire, entice, spur, coax, urge, lure, tempt, press, prompt, provoke, persuade, prevail upon, exhort, cajole, wheedle, inveigle, stimulate, your pupils to do the talking in the classes. Then your skill will show itself in question and suggestion. Let them speak for themselves and find out things for themselves. Don't try to make too many impressions; don't repress or depress them; but see that there is expression. It is charged that even the large colleges afford very imperfect means for expression. Expression is necessary to growth. Expression is life. Let's help our pupils learn to live, so that their lives will make the world sweeter and more human. So that they will give flowers to the living rather than lavish them on the coffins of the dead—flowers of speech of appreciation, love, and homage. They may then be able as men and women to express what they feel and save the dumb sorrow, the tears and grief resulting from silence where there should have been speech. The old proverb, "Speech is silver but silence is golden," is

not a good one for the school room, neither is the advice of the self-made merchant to his son: "Have something to say; say it; stop talking." Rather in the school rooms speech should be encouraged for the sake of the training in English. Teach students the power of speech and the necessity of practicing oral expression, for as we read in the parable of the talents, it is a law of life that "Unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath."

Who are the great ones of humankind? Those who have been great thinkers and have expressed their thoughts. Thoughts unexpressed in word or deed are not of much value.

"Brand burns from brand,
Until it is burnt out;
Fire is from fire quickened.
Man to man
Becomes known by speech,
But a fool by his bashful silence."—(HAVERMAL.)

Public speaking should be taught. Have debates and parliamentary drills. Encourage extemporaneous work in lyceums and school clubs. In high schools don't neglect the rhetoricals. Commercial students need this kind of training. In salesmanship do the most of the work orally. When you require commercial students to read certain articles or books, have an oral report from each, not a written report. Even in the spelling class there should be some oral spelling, to help those who remember best what they hear. In connection with oral work, stimulate and encourage the use of new words, and thus help the student enlarge his vocabulary.

In order to write business letters, reports, and advertising matter, the commercial student must learn to spell correctly, punctuate intelligently, and capitalize consistently. Copying correct English will help in this. After an article has been copied several times and the reason for every punctuation mark and every capital has been determined, the model English should be written from dictation. Then it should be carefully compared with the original and again written from dictation, and so on until the spelling, punctuation, and capitalization are completely mastered. This drill in "plain copying" and writing from dictation is especially needed as preliminary to creative work in English in all business colleges. It may not be so necessary in high school commercial departments, but my experience shows me that even in the high school it is needed and needed badly.

When real composition begins there should be a calling up of experiences in the writer's mind and not a rehashing of other people's writings. There should be written reports of investigations and stories of the student's own doings. Written reports or abstracts of what has been read in books

have been greatly overdone. Witness the old-time (though not yet extinct) graduating essays which were largely made up of rehashes of what had been read in encyclopedias and "treasuries" of literature. Reporting current events, after reading the newspapers, is often detrimental. A parochial-school boy, applying for admission to the public schools of Brooklyn, handed to his parochial-school teacher an exercise on the Beattie murder case in Virginia. A Catholic paper commented as follows:

"The nun was horror-stricken, and asked him why he had chosen such a topic, when the boy responded, 'Well, they asked for a composition on a subject like that, so I wrote it.' Then the nun looked over the carefully prepared list of questions on the subject of English, and, to her horror, saw that the boy of thirteen was right. Here's the question: 'From accounts that have recently appeared in the newspapers or the popular magazines, select some one instance of unusual bravery or of unusual wickedness. Tell about it. Make a suitable title!' Think of it! A supposedly enlightened official of the public educational department of our city asking children of twelve or thirteen years of age to describe an instance of unusual wickedness!"

Better simply copy over and over specimens of pure English and elegant diction such as the letter that has been engrossed, framed, and hung in one of the halls of Oxford, the great English university.

"Executive Mansion,
Washington,
November 21, 1864.

DEAR MADAM:

I have been shown in the files of the War Department a statement of the Adjutant General of Massachusetts that you are the mother of five sons who have died gloriously on the field of battle. I feel how weak and fruitless must be any words of mine which should attempt to beguile you from the grief of a loss so overwhelming. But I cannot refrain from tendering you the consolation that may be found in the thanks of the Republic they died to save.

I pray that our Heavenly Father may assuage the anguish of your bereavement, and leave you only the cherished memory of the loved and lost, and the solemn pride that must be yours to have laid so costly a sacrifice upon the altar of freedom.

Yours sincerely and respectfully,

ABRAHAM LINCOLN."

I heartily agree with one who said: "I expect to see the day when the conversational method will be supreme, and teaching will be done practically without books,—by object lessons, thinking things out and doing things." "We will let children grow strong and unfold through doing things and talking about them as they do them, and pupils and teacher will grow strong together."—(HUBBARD.)

I believe the commercial course should train students to listen attentively, to talk persuasively, to speak in public, to write effective letters and advertisements. I believe the commercial branches should be taught so that our graduates will be able to follow instructions because they have listened, will be talkers and readers and thinkers, will be trained in parliamentary law and capable of speaking in public and taking part in business and political meetings. I believe that the most important part of the commercial course is that which is now so badly neglected, the study and practice of expression in the English language.

ADMISSION REQUIREMENTS IN BUSINESS AND SHORTHAND.

PRINCIPAL, W. A. MORSE, DETROIT.

"The proof of the pudding is in the eating." In order that we might know what commercial men think of the product that the schools are furnishing them, I sent out circular letters to several of the leading business houses of Detroit asking certain questions relating to our work. I wish to submit these questions, together with their answers, for your consideration.

1. What is the most noticeable defect in a commercial student's preparation?
In answer to this eight replied, "Unwilling to begin at the bottom and work his way up to learn the business." Ten others answered, "penmanship."
2. Do most of the pupils lack initiative?
Eight answered "yes," two answered "no," others did not answer.
3. Are they, as a rule, willing to work?
Ten answered "yes," five answered "no."
4. What do you think of their work in the following subjects:
 - (a) Arithmetic?
Two answered "good," five answered "fair," eleven answered "poor."
 - (b) Penmanship?
Two answered "good," five answered "fair," ten answered "poor."
 - (c) English?
Ten answered "good," seven answered "fair," two answered "poor," and two answered "I think home training has a great deal to do with it."
 - (d) Geography?
Two answered "good," seven answered "fair," ten answered "poor."

5. Do you think the grammar schools and the high schools attempt to give the pupils too many subjects?
Twelve answered "yes," one answered "no," two answered "Do not know."
 6. Would you suggest more thorough work in fewer subjects?
Twelve answered "yes," two answered "no."
 7. How many school years should be required of pupils before they take up actual business training: *i. e.*, stenography, typewriting, and bookkeeping?
Twelve answered "twelve years," two answered "eight years," and one answered "I do not know."
- As a sample of these answers and letters received, I wish to submit to you the one received from the Cadillac Motor people.

March 14, 1912.

MR. W. A. MORSE,
Western High School,
Detroit, Mich.

DEAR SIR:

Replying to your circular letter of March 7th in reference to the results of high school pupils' work, we enclose replies received from the two men in this company who have more particularly to do with young men coming from high school. In each case the first answer given is that of Mr. M. B. Hughes, who is in charge of our Instruction Department, and the second answer that of Mr. L. E. Gates who employs messengers and minor clerks. The difference in replies may be reconciled by the fact that Mr. Gates is looking only for office assistance while Mr. Hughes has reference only to the qualifications required for shop work.

If we can give you any further assistance in this matter we would be pleased to do so.

Very truly yours,
CADILLAC MOTOR CAR COMPANY.

(Signed) JOHN H. BOURNE.

In referring to the answers of these two men, I shall designate them by answer A and answer B.

To question one, A answers, "Considers himself too well educated to start on laborers' work in the shop," B answers "penmanship."

Question two, A answers, "Think they do, but home training is at fault for this." B answers, "not necessarily."

Question three, A answers, "As long as the work interests them." B answers, "yes."

Question four, A answers, "Have taken no notice of penmanship. Eng-

lish all right, arithmetic could be more practical, have taken no notice of geography"; B answers, "Penmanship not up to standard, English fair, home training and environment are to be considered, arithmetic not up to standard, and geography fair."

Question five, A answers "In some cases, yes, but where pupils can handle the number of subjects given there is no objection; B answers, "In many instances, yes."

Question six, A answers, "Think the schools as a whole will be benefited by this, but of course some exceptional ones would lose by this method; B answers, "I think so."

Question seven, A answers, "no data"; B answers, "at least ten years, and preferably twelve years."

In looking through the daily papers I have found many "want" advertisements that read as follows:—"Wanted, a boy willing to work, fair in penmanship, sure of his arithmetic, not conceited, of good habits, and courteous." Not all of these qualifications appeared in any one advertisement, but I have combined them to save time and space. These, together with the above given answers, would seem to give a pretty fair estimate of what the commercial firms expect of the product that we are to send them. To be sure the greater part of the criticism is aimed directly at the academic work, but there are other factors in the problem that are of vital importance and to which the schools should give much careful attention. There is no greater stock in trade for a young man in business than a wholesome amount of genuine initiative. Yet many of our schools, instead of encouraging and stimulating this characteristic, knock it entirely out of a pupil so that he is turned loose upon the world a mere molycoddle that dare not assert himself. We have all heard of the lad who wishing a position wrote as follows: "Say mister can you give me a job? My father is dead and my mother is sick and it beats hell how hard times is." This boy may not use the English that we would have him use and yet he will more than make good in whatever deficiencies he may possess. A good product cannot be produced unless a fair material be furnished with which to work.

All pupils, particularly those who hope to enter a business career, should be taught kindness and courtesy. By this we do not mean that straight-jacket etiquette that is so distasteful and painful to a boy, but we mean that genuine warmth and congenial spirit that draws like a magnet and that every business man should possess.

Systematic endeavor should be cultivated and encouraged in every child. The average pupil coming from the grades is careless, indifferent, and as a rule, more or less slovenly in his work. Before he is allowed to enter upon a commercial training, he should learn that only careful and systematic work is to be accepted. Here is much fruitful soil for some of us teachers to cultivate. Many times the loose and careless habits of pupils are directly traceable to those of a teacher. Pupils are quick to interpret, and when they discover that a teacher is careless, slovenly, and inaccurate, they

catch the contagion, and then it is indeed hard to overcome. Example as well as precept should be our motto.

The commercial student must have a high moral tone, honesty, good habits, and regular hours. His employer may have a few loose habits himself, but he will not tolerate them from his office help. These responsibilities we should very much like to throw back upon the home and church, but this we cannot do. The school is a social creation in which the child spends more than one-half of his daylight hours. He is ours and we should make the most of him, physically, socially, intellectually, and morally. Particularly is this true in his relation to the state. From a financial standpoint, how much cheaper it would have been for this country to have educated such men as Leon F. Czolgosz and the clan of Allens than to bring each to a trial and certain conviction.

I have but little patience with these short cuts and hurry up routes to an education. Where such systems have been thoroughly tested, the finished product has been found to be defective in many of its parts. Such a system reminds me of the frog described by G. Stanley Hall. He said, "By cutting off the tail of a tadpole you can make a frog in a hurry, but you spoil a good tadpole and get an abnormal frog." During a certain period of a child's life he has more or less a craving spirit for certain things. If these are given him too early in the game, no interest is created and much of the good is utterly wasted. "We may teach a child to read," says Dr. Tyler, "before any interest in books is created." We may hurry him into arithmetic before he is mature enough to take any interest in it and as a result he learns to dislike the subject. The process of crowding the college work back into the high school, the high school work back into the grammar grades and the grammar grade subjects back into the intermediate grades or else out altogether, is a pernicious one and should be frowned upon by all who have an interest in children and who would have them in later years come forth from the college or university with a sound body and a well cultivated mind. "Strong men and women are needed to carry on this work; men and women of knowledge, wisdom, patience, of unwavering faith in the principal of a government of the people, by the people, and for the people, and of profound moral and religious conviction." These elements, coupled with a good thorough training of the foundation studies, might prepare the pupil to enter upon a business course.

Our candidate for commercial work should be thoroughly grounded in the essentials of arithmetic, including the five fundamentals, also compound numbers, common and decimal fractions, percentage and simple interest. It is not enough for him to know this subject in a casual way so that by giving him plenty of time he may be able to wriggle through a problem, but he should be able to work it out quickly and accurately, oft-times mentally, and at the same time be dead sure of his results. Accuracy is what the commercial world needs.

He should be able to spell the common English words correctly and

write the same into good wholesome English. Little progress can be expected in other lines of work until this is accomplished. The employer is not going to stand for a mere phonograph with inferior records, but he wants a real live person, trained in such a way that when he hands him work to be done, he knows it will be done better than if he were to do it himself.

What has been said of arithmetic and English is also true of geography and penmanship. These subjects, judging from the answers above quoted, should receive careful attention. Is it not high time that we should "Read the handwriting on the wall" and learn that the great demand is, "fewer things, better done."

To accomplish this work that I have crudely and briefly attempted to outline, would seem to me to take at least ten years of the child's school life. These years, if properly spent in the hands of a competent teacher should prepare him to enter upon a commercial training. I say in the hands of competent teachers because this is one of the hard problems with which the public school has to deal. In the commercial school if the president finds he has a poor teacher, he can dismiss her and select another; but in the public schools—I will leave the question with you to decide.

When we can get pupils in our commercial schools that have been properly prepared before entering, we shall be able to turn out a product that will stand the test of the actual business life and much of the adverse criticism will cease. It seems to me that the man of business needs a thorough training just the same as in other walks of life. Thos. Carlyle says, "An educated man stands, as it were, in the midst of a boundless arsenal and magazine, filled with all the weapons and engines which man's skill has been able to devise from the earliest times; and he works accordingly with a strength borrowed from all past ages. How different is his state who stands outside this storehouse, and feels that its gates must be stormed, or remain forever shut against him? His means are the commonest and the rudest, the work done is no measure of his strength. A dwarf behind his steam engine may remove mountains, but no dwarf will hew them down with a pick axe."

MINUTES OF THE MEETING OF THE COMMERCIAL SECTION OF THE SCHOOLMASTERS' CLUB AT ANN ARBOR HIGH SCHOOL, ANN ARBOR, MICHIGAN, MARCH 29, 1912.

Meeting called to order by Chairman L. C. Rauch of the Business Institute of Detroit.

In the absence of Secretary J. J. Schmidt of Port Huron, H. E. Ten Eyck of Bay City was elected secretary pro tempore.

The program opened with remarks by Chairman Rauch, which proved very helpful and inspiring:

In the absence of Mr. C. B. Bowerman, Principal of the Commercial Department, Central High School, Detroit, his paper on "Proper Dictation in the Teaching of Shorthand" was read by Mr. Gibbs of Detroit Central High School.

Discussion led by Mrs. Kate Wainwright of the Cleary Business College, Ypsilanti, and followed by Mr. A. R. Mead of Dowagiac, Mr. S. A. Moran, Ann Arbor, Mr. McMillan of Detroit, and Miss Clara Schaible, formerly of Adrian High School.

Question raised as to how, and how many, wordsigns should be taught. Answered by Mr. Gibbs and Mr. Moran in effect as follows: "Teach the principles thoroughly first and then the wordsigns, and only those connected with phrases and sentences."

The importance of making the pupil thoroughly familiar with technical terms and words peculiar to different kinds of business was suggested.

Emphasis was laid on the importance of teachers examining the papers that are corrected by students, and on the value of pupils correcting, under the direction of the teacher, work previously placed on the board.

This discussion was followed by a Billing Demonstration on a Remington Adding and Subtracting Machine by Miss Anna Barker of Detroit with explanations by Mr. Brean.

Meeting adjourned.

SECOND SESSION OF THE COMMERCIAL SECTION. MARCH 30, 1912.

Meeting called to order by Chairman Rauch at 9:15 A. M.

Program opened by reading of paper on Commercial English by Mr. W. W. Kinsley, Principal of Commercial Department, Ferris Institute, Big Rapids.

Discussion opened by Mr. W. J. Frazier, Eastern High School, Detroit.

Discussion continued by President P. R. Cleary, Cleary Business College, Ypsilanti; Principal Comfort, Cass High School, Detroit; Principal W. A. Morse, Western High School, Detroit; Mr. Chapman, Western High School, Detroit; Principal Gallup, Adrian; Principal McMillan, Detroit; Mr. Mariam, Eastern High School, Detroit; Professor Kelley, of the University of Michigan; and Miss Woodward of Detroit. Discussion closed by a few pertinent remarks from Chairman Rauch.

Second number on the program was a paper read by Principal W. A. Morse, Western High School, Detroit, on Admission Requirements in Business and Shorthand.

Discussion opened by President P. R. Cleary of Ypsilanti.

Discussion continued by the Chairman, Mr. Rauch; Mr. Moran of Ann Arbor; Principal Gallup, Adrian; Professor Kelley, University of Michigan; Principal W. A. Morse, Western High School, Detroit.

On motion of President P. R. Cleary, the time of meeting of the Commercial Conference for the next time was changed from Friday and Saturday to Thursday and Friday.

On motion Mr. McMillan of Detroit was elected Chairman of the Commercial Section of the Michigan Schoolmasters' Club for 1912-1913.

On motion Mr. S. A. Moran was elected Secretary for the ensuing year.

Meeting adjourned.

H. E. TENEyCK, Sec. pro tem.

DRAWING CONFERENCE

Fourth annual meeting of Drawing Section of School Master's Club was held in Memorial Building of the University of Michigan, March 29, 1912 with Miss Guysi as chairman and Miss Goodeson Secretary.

Report of Committee on Course in Mech. Drawing for High Schools which shall prepare pupils for the university by Prof. Goulding.

The Committee asked for an extension of time in making out such a course but they advised giving not more than one year's work in this subject in the last year of the H. S., thus giving them time for culture studies for which they do not have so much time in the university.

Election of officers for the ensuing year as follows:—

Chairman, Miss Guysi of Detroit, re-elected.

Secretary, Kate B. Conover, Detroit.

Motion by Mr. Kuntzworth:—That a committee be appointed to confer as to the writing of the art interests of Michigan, committee to be appointed by chairman. Mr. Kuntzworth was appointed chairman of such a committee to report at next meeting.

Address by Mr. Hamilton of Detroit School of Design. Subject—Design.

Address by Mr. Cross of University of Michigan, on Art History for Children.

Motion made and seconded that the Secretary write and thank both Prof. Hamilton and Prof. Cross for the great pleasure and good instruction they had given the members by their address. Meeting adjourned.

SYNOPSIS OF BUSINESS MEETING

FINANCIAL REPORT OF THE SECRETARY-TREASURER,

1911-1912.

Receipts.

1911			
March	1—Balance as per last report.....	\$	198.74
	Balance in Savings Department		20.00
March	4—Deposit		28.46
March	18—Deposit		125.21
March	25—Deposit		40.87
April	1—Deposit		507.00
April	22—Deposit		20.76
May	11—Deposit		72.87
Dec.	1—Interest in Savings Department.....		2.74
1912			
Jan.	6—Deposit		30.00
March	2—Deposit		4.00
Total Receipts		\$	1050.65
Total Disbursements			837.83
Balance		\$	212.82
In Savings Department			22.74
In Commercial Department		\$	190.08

Disbursements.

March	4—Check No. 186, Treas. U. of M. Latin and Greek in American Education	\$	75.69
March	18—Check No. 187, E. E. Calkins, postage for programs.....		12.00
March	20—Check No. 188, E. E. Calkins, postage for programs.....		4.00
March	21—Check No. 189, Mack & Co., postage for programs.....		5.00
March	23—Check No. 190, E. E. Calkins, postal cards.....		1.00
March	31—Check No. 191, Prof. E. C. Armstrong, Mod. Languages.....		45.00
April	1—Check No. 192, Dean J. O. Reed, for Dean Ropes.....		51.70
April	1—Check No. 193, Dean J. O. Reed, for Janitor.....		1.00
April	1—Check No. 194, Dean J. O. Reed, for expense account		1.00
April	1—Check No. 195, Dean J. O. Reed, for Janitor.....		1.00
April	1—Check No. 196, Dean J. O. Reed, for personal expense.....		1.00
April	1—Check No. 197, Mark Wisdom, door keeper		2.70
April	1—Check No. 198, M. W. Longman, door keeper.....		1.95
April	8—Check No. 199, J. A. Muma, door keeper		3.00
April	8—Check No. 200, John Thomas, door keeper		1.20
April	8—Check No. 201, Pres. J. S. Nollen, Mod. Lang.....		14.39
April	8—Check No. 202, Prof. A. F. Kursteiner, Mod. Lang.....		22.00
April	8—Check No. 203, Nellie Easton, clerk.....		3.38
April	8—Check No. 204, Bessie Dye, clerk.....		2.25
April	8—Check No. 205, Sara Phelps, clerk.....		2.18
April	8—Check No. 206, S. W. Millard, badges and receipts.....		13.00

April	10—Check No. 207, L. P. Jocelyn	100.00
May	1—Check No. 208, G. G. Bechtel, Treas. M. S. A. A.....	5.00
May	3—Check No. 209, Martin Haller, Art Exhibit.....	2.80
June	1—Check No. 210, Treas. U. of M., L. and G. in Am. Ed.....	146.46
June	9—Check No. 211, E. R. Hubbard, door keeper.....	.50
July	12—Check No. 212, Ann Arbor Press, printing.....	259.53
Sept.	5—Check No. 213, C. C. Webber, door keeper.....	.75
Sept.	8—Check No. 214, S. A. Moran, stenog. work.....	3.75
Oct.	24—Check No. 215, E. E. Calkins, stamps	3.00
Nov.	11—Check No. 216, E. E. Calkins, stamps and postal cards.....	4.00
Dec.	20—Check No. 217, Clerical force for year	43.60
1912		
Jan.	22—Check No. 218, E. E. Calkins, stamps	2.00
Feb.	19—Check No. 219, E. E. Calkins, postal cards.....	2.00
Total Expenditures		\$ 837.83
In Commercial Department		190.08
In Savings Department		22.74
Total		\$1050.65

March 29, 1912.

We, the undersigned, have examined the Financial Report of the Secretary-Treasurer of the Michigan Schoolmaster's Club, and find the same to be correct.

ARTHUR G. HALL,
E. E. GALLUP,
Auditing Committee.

COMMITTEES.

AUDITING COMMITTEE.

Arthur G. Hall, University.
E. E. Gallup, Adrian.

NOMINATING COMMITTEE.

E. C. Warriner, Saginaw, Chairman.
C. G. Wade, Flint.
L. P. Jocelyn, Ann Arbor.
C. F. Adams, Detroit.
J. B. Edmonson, Jackson.
A. J. Easton, Port Huron.

REPORT OF NOMINATING COMMITTEE.

President—H. N. Chute, Ann Arbor.
Vice-President—Caroline E. Britton, Jackson.
Secretary-Treasurer—Louis P. Jocelyn, Ann Arbor.
Chairman of Classical Conference—Campbell Bonner, University.
Secretary of Classical Conference—Anna S. Jones, Grand Rapids.
Chairman of Modern Language Conference—Frederick Lutz, Albion College.
Secretary of Modern Language Conference—Miss Martha Sturgis, Ann Arbor.
Chairman of English Conference—E. L. Miller, Detroit.
Secretary of English Conference—Caroline E. Britton, Jackson.
Chairman of History Conference—C. S. Larzelere, Central Normal.
Secretary of History Conference—Eric L. Gates, Bay City.
Chairman of Physics and Chemistry Conference—N. H. Williams, University.
Vice-Chairman of Physics and Chemistry Conference—F. C. Irwin, Detroit.
Secretary of Physics and Chemistry Conference—B. E. Smith, Grand Rapids.
Chairman of Mathematics Conference—Albertus Darnell, Detroit.
Secretary of Mathematics Conference—W. H. Pearce, State Normal.
Chairman of Biology Conference—Wm. E. Praeger, Kalamazoo College.
Secretary of Biology Conference—Helen M. King, Saginaw.
Chairman of Commercial Conference—D. W. McMillen, Detroit.
Secretary of Commercial Conference—S. A. Moran, Ann Arbor.
Chairman of Physiography Conference—Helen M. Martin, Battle Creek.
Secretary of Physiography Conference—Bernice L. Haug, Detroit.
Chairman of Drawing Conference—Alice V. Guysi, Detroit.
Secretary of Drawing Conference—Kate B. Conover, Detroit.

Upon motion a committee of five, to be known as a Legislative Committee to act with a similar or similar committees from other bodies, was asked to be appointed by the president. Mr. Chute, President-elect was asked by President Morse to appoint such committee. President Chute has since appointed the following as such committee:

D. W. Springer, Ann Arbor, Chairman.
E. A. Lyman, Ypsilanti.
J. B. Edmonson, Jackson.
C. F. Adams, Detroit.
W. G. Coburn, Battle Creek.

Upon proper motion three new Conferences were added to the Club. The first for Vocational Subjects; the second, Psychology, Philosophy, and Ethics; the third, Athletics and Physical Culture.

Upon motion of Principal Gallup and seconded by Principal Bishop, the Secretary's salary was placed at two hundred dollars a year.

Meeting adjourned.

L. P. JOCELYN, Secretary.

PROGRAM OF GENERAL SESSIONS

(Admission to *all* meetings of the Club by badge.)

Wednesday Evening, March 27

8:00 o'clock.

UNIVERSITY HALL.

Address: Iridescent Colors of Birds and Insects,
Dr. A. A. Michelson, Professor of Physics, University of
Chicago, and winner of the Rumford, Copley, and
Royal Society medals, and Nobel prize. (Compliments
of the Academy of Science.)

Thursday Morning, March 28

9:30 o'clock.

UNIVERSITY HALL.

President—Principal W. A. Morse, Detroit.

Secretary—Mr. Louis P. Jocelyn, Ann Arbor.

1. Some Neglected Points in the Teaching of Algebra and
Geometry,
President David Felmley, Illinois State Normal Univer-
sity.
2. Mathematics and Light,
Professor C. J. Keyser, Columbia University, New York.
3. Discussion.

Thursday Afternoon

4:15 o'clock

BARBOUR GYMNASIUM

(Admission by badge.)

1. Young Ladies' Classes in Gymnastic Drills.
2. Basketball Game.

4:15 o'clock.

ROOM B-2, HIGH SCHOOL.

Meeting of the Association of High School Principals.

Chairman—Principal J. B. Edmonson, Jackson.

Secretary—Principal J. E. Porter, Cadillac.

1. Informal Discussion of Administrative Work of the High
School. An informal dinner will follow the meeting.

Thursday Evening

8:00 o'clock.

NEW WHITNEY THEATER.

"Le Monde où l'on s'ennuie".....*Édouard Pailleron*

Annual Representation of the Cercle Français.

Tickets, 50c, 75c, and \$1.00.

Friday Morning, March 29

8:30 o'clock.

UNIVERSITY HALL.

(Admission to *all* meetings of the Club by badge.)

BUSINESS MEETING OF GENERAL SESSION.

President—Principal W. A. Morse, Detroit.

Secretary—Mr. Louis P. Jocelyn, Ann Arbor.

- (a) Reports of Officers.
- (b) Reports of Committees.
- (c) General Business.
- (d) Remarks and Recommendations of the President of the Club.

9:00 o'clock.

LITERARY MEETING OF GENERAL SESSION.

1. "What Next in Education?"
Sarah Louise Arnold, Dean of Simmons College, Boston, Mass., and Member of the Massachusetts State Board of Education.
Discussion, Miss Mary Hinsdale, Ann Arbor.
2. The School as a Social Center,
Wales C. Martindale, Superintendent of Schools, Detroit.
Discussion. Professor S. B. Laird, State Normal College.
3. The Question of Pensioning Teachers,
Julia B. Doran, President of Michigan Federation of Teachers' Clubs, Grand Rapids.
Discussion, Professor Bradley M. Thompson, University of Michigan.
4. Value of Manual Training and Drawing as a Preparation for Engineering Schools,
Professor M. E. Cooley, Dean of the Engineering Department of the University of Michigan.

5. Requirements for admission to the Engineering Department of the University of Michigan,
Professor W. H. Butts, Assistant Dean of the Engineering Department of the University of Michigan.

Friday Afternoon

4:00 o'clock.

ROOM B-I, HIGH SCHOOL.

Michigan State Federation of Teachers' Clubs.

Chairman—Miss Julia B. Doran, Grand Rapids.

Secretary—Miss Eureka Bannister, Grand Rapids.

Meeting of the Board of Directors, followed by an informal dinner at 6:00 o'clock.

5:00 o'clock.

MUSICAL PROGRAM—UNIVERSITY HALL.

Under the auspices of the University School of Music.

Friday Evening, March 29

6:00 o'clock.

BARBOUR GYMNASIUM

1. Reception of Alumnæ and former Students of the University.
 2. Alumnæ Banquet.
 3. Junior Girls' Play.
- (Note:—Admission to Play by Dinner Ticket only. Secure Reservations before March 29 of Dean Myra B. Jordan).

Saturday Morning, March 30

10:00 o'clock.

BARBOUR GYMNASIUM

Presiding Officer—Miss Sara Louise Arnold, Dean of Simmons College, Boston, Mass.

Round Table Conference of the Women's League, and the Association of Collegiate Alumnæ. Subject: Vocational Opportunities for Women. All interested are invited to attend.

PROGRAM OF CONFERENCES

CLASSICAL CONFERENCE*

Chairman—Professor George A. Williams, Kalamazoo College.
Secretary—Professor Clarence L. Meader, University of Michigan.

Tuesday Evening, March 26

8:00 o'clock.

HIGH SCHOOL AUDITORIUM.

Joint Session of the Ann Arbor Art Association and the Classical Conference.

Presiding Officer—Mr. Theodore W. Koch, University of Michigan.

1. Lecture: The Excavations and Discoveries at Cyrene in 1910-11,† (slides from the original negatives),
Francis W. Kelsey, University of Michigan.

Wednesday Afternoon, March 27

1:45 o'clock.

LECTURE ROOM, MEMORIAL BUILDING.

Presiding Officer—Professor George A. Williams, Kalamazoo College.

2. Some Roman Ruins in Tunisia,†
Professor John G. Winter, University of Michigan.
3. High School Latin from the Point of View of the Second-Year Pupil,
Miss Eva P. Carnes, South Haven High School.
4. A Method in Second-Year Latin,
Miss Helen B. Muir, Ypsilanti State Normal College.

* Commencing with the Classical Conference of 1913 a series of addresses will be given upon the relations of the modern literatures to the ancient. It is expected that the first address, on the Indebtedness of English Literature to the Literatures of Greece and Rome, will be given by Mr. Paul E. More, editor of *The Nation*.

The Proceedings of the last Classical Conference were published in the *School Review* for March, 1912. Persons desiring copies of the Bulletins on the Languages in American Education and on the Reform in Grammatical Nomenclature may address (enclosing 3 or 6 cents in stamps), Mr. L. P. Jocelyn, Secretary, 545 South Division Street, Ann Arbor, Michigan. Copies of the Bulletins are sent to all members of the Schoolmasters' Club.

† Illustrated with the Stereopticon.

5. Discussion of Papers 3 and 4,
 - a. Miss Alice Porter, Ann Arbor High School.
 - b. General Discussion.
6. The Views of Quintilian on the Causes of the Corruption of Oratory,
Professor Wilber J. Greer, Hope College.
7. Some Instances of Blood-rain in Mediæval Records,
Professor John S. P. Tatlock, University of Michigan.
8. Light on New Testament Problems from a manuscript of the Gospels in the Freer Collection,†
Professor H. A. Sanders, University of Michigan.

Thursday Afternoon, March 28

1:45 o'clock.

LECTURE ROOM, MEMORIAL BUILDING.

Presiding Officer—Professor B. L. D'Ooge, State Normal College.

9. The University Collection of Inscriptions, on the walls of the stairways of the Memorial Building: A brief account of the Formation of the Collection, with an interpretation of a few typical inscriptions.†
Francis W. Kelsey, University of Michigan.
10. Bridging Bryce's Twenty Years.
Miss Genevieve Duffy, Detroit Central High School.
11. Possibilities,
Miss Maude Parsons, Kalamazoo State Normal School.
12. Latin for the average High School Student,
Miss Elizabeth L. Wilcox, Jackson High School.
13. Discussions of the papers numbered 10-12,
 - a. Miss Clara J. Allison, Hastings High School.
 - b. General Discussion.

Business meeting.

4:15 o'clock.

14. The Statue lately discovered on the Site of Antium,†
Professor Herbert Richard Cross, University of Michigan.

Friday Afternoon, March 29

1:45 o'clock.

UNIVERSITY HALL.

Presiding Officer—President Emeritus James B. Angell, University of Michigan.

15. The Crane, the Classics and the Boy,
Professor E. D. Dimment, Hope College.

† Illustrated with the Stereopticon.

16. The Classical Club in College Work,
Professor John T. Ewing, Alma College.
17. The *Ligue pour la Culture Française*,
Professor J. R. Effinger, University of Michigan.
18. The Humanizing of the Latin Teacher,
Miss Frances J. Brown, Port Huron High School.
19. The Teaching of Virgil in Relation to the Development of
the Appreciation of Literature.
Professor F. C. Demorest, Albion College.
Address, 4:15 o'clock.
20. Greek Study in Retrospect and Prospect,
Professor M. L. D'Ooge, University of Michigan.

MODERN LANGUAGE CONFERENCE

(Admission by badge.)

Chairman—Professor Frederick Lutz, Albion College.

Secretary—Miss Martha Sturgis, Ann Arbor.

Wednesday Afternoon, March 27

2:00 o'clock.

ROOM 203, UNIVERSITY HALL

Presiding Officer—Professor A. G. Canfield, University of Michigan.

1. La Note Moderne du Seizième Siècle dans l'Enseignement
des Langues Vivantes,
Miss Lorley A. Ashleman, Central High School, Detroit.
2. Aperçu sur les Méthodes et les Qualifications du Professeur
des Langues Vivantes,
Miss Felicie M. Haberstiche, Central High School, Detroit.
3. Teaching of the Spoken Word in French in College Work,
Mrs. Agnes S. Perkins, Kalamazoo College.
4. Observation in Teaching German in the Ann Arbor High
School,
Miss Alice Rothman, High School, Ann Arbor.
5.
Professor H. R. Brush, Hope College.

Thursday Afternoon, March 28

2:00 o'clock.

ROOM 203, UNIVERSITY HALL.

Presiding Officer—Professor Max Winkler, University of Michigan.

6. The Direct Method of Teaching Modern Languages in the Light of American Conditions,
Miss Carolina A. Supé, High School, Escanaba.
7. Word Order in German,
Professor Tobias J. C. Diekhoff, University of Michigan.
8. Development of the Individual Student,
Miss Alice J. Hauser, Eastern High School, Detroit.
9. The Importance of Concentration in the Study of Modern Languages in the High Schools.
Professor W. W. Florer, University of Michigan.

Friday Afternoon, March 29

2:00 o'clock.

ROOM 203, UNIVERSITY HALL.

Presiding Officer—Professor Frederick Lutz, Albion College.

10. Some Problems in Teaching Modern Languages in a College,
Professor A. C. Klocksien, Hillsdale College.
11. The Present Situation of the Modern Languages in American High Schools,
Professor A. G. Canfield, University of Michigan.
Discussion led by Professor Ewald Boucke, University of Michigan.

ENGLISH CONFERENCE

(Admission by badge.)

Friday Afternoon, March 29

2:00 o'clock.

HIGH SCHOOL AUDITORIUM.

Chairman—Assistant Principal E. L. Miller, Central High School, Detroit.

Secretary—Miss Caroline E. Britten, Jackson.

1. The Novel in the High School,
Principal Benjamin Comfort, Cass High School, Detroit,
(author of the historical novel, "Arnold's Tempter").

2. The Drama League of America,
Mrs. A. Starr Best, president of the league, Evanston,
Ill.
3. The Movement for Increasing the Effectiveness of School
and College English,
Professor James F. Hosis, Chicago Teachers' College.
4. Our Overworked English Teachers,
Professor E. M. Hopkins, University of Kansas.

HISTORY CONFERENCE

(Admission by badge.)

Thursday Afternoon, March 28

1:45 o'clock.

ROOM C-3, HIGH SCHOOL.

Chairman—Mr. C. S. Larzelere, Central State Normal School,
Mt. Pleasant.

Secretary—Mrs. Erie L. Gates, Bay City.

1. The Unprofitableness of Negro Slavery in the Ante-bellum
South,
Professor Ulrich B. Phillips, University of Michigan.
2. The History of Workmen's Compensation Legislation,
Professor E. H. Ryder, Michigan Agricultural College.
3. History in the High School,
Miss Daisy Caroline Olney, High School, Port Huron.
4. The Aim of History Teaching,
Professor Frank T. Carlton, Albion College.

Friday Afternoon, March 29

1:45 o'clock.

ROOM C-3, HIGH SCHOOL.

5. The Relation of Political Science to History,
Professor Jesse S. Reeves, University of Michigan.
6. The Second Point of View,
Professor Paul Hickey, Western State Normal School,
Kalamazoo.
7. The Morocco Crisis of 1911,
Professor Edward Raymond Turner, University of
Michigan.

CONFERENCE OF PHYSICS AND CHEMISTRY

(Admission by badge.)

Thursday Afternoon, March 28

1:30 o'clock.

PHYSICAL LABORATORY, WEST LECTURE ROOM.

Chairman—Principal Earl N. Worth, Kalamazoo.

Vice-Chairman—Professor David M. Lichty, University of Michigan.

Secretary—Mr. N. H. Williams, University of Michigan.

1. Radium: What should one know and teach regarding it?
Dr. C. S. Lind, University of Michigan.
2. The Function of Physics in the High School,
Mr. R. H. Struble, Eastern High School, Detroit.
3. What Proportion of the Year in High School Chemistry
should be given to Laboratory Work on Solutions?
Mr. J. W. Mathews, Western High School, Detroit.
4. Experiments with a new Shunt,
Mr. W. G. Kirby, Soldan High School, St. Louis, Mo.
5. Experiments with the Galde Pump,
Mr. F. J. Mellencamp, University of Michigan.
6. An Apparatus for finding the Index of Refraction of Liquids,
Mr. De Forest Ross, Ypsilanti.

Friday Afternoon, March 29

1:30 o'clock.

PHYSICAL LABORATORY, WEST LECTURE ROOM.

6. The Preparation of Grade Teachers in Physics,
Mr. J. E. Fox, Western Michigan State Normal.
7. A High School Equipment in Photography,
Mr. Walfred Benson, Battle Creek High School.
8. The Chemistry of some Simple Photographic Processes,
with Experiments,
Mr. A. S. Benham, High School, Ann Arbor.
9. Projection of Bright and Dark Line Spectra,
Mr. C. F. Adams, Central High School, Detroit.
10. Vibration of a Water Drop in the Spheroidal State,
Professor H. M. Randall, University of Michigan.
11. Business meeting.

MATHEMATICAL CONFERENCE

(Admission by badge.)

Friday Afternoon, March 29

1:45 o'clock.

TAPPAN HALL.

Chairman—Professor E. A. Lyman, State Normal College.

Secretary—Principal E. E. Gallup, Adrian.

1. What Results may we Reasonably Expect, in Mathematics, of a High School Student, and on what Subject Matter shall we Base our Expectations?

Mr. E. S. Loomis, Head of Department of Mathematics,
West Side High School, Cleveland, Ohio.

2. Some Essentials for Successful Work in High School Mathematics,
Principal L. A. McDiarmid, Albion.
3. Discussion.

BIOLOGICAL CONFERENCE

(Admission by badge.)

Friday Afternoon, March 29

12:30 o'clock.

ROOM 401, UNIVERSITY HALL, SOUTH WING.

Luncheon for Teachers of Biology. Tickets, 25 cents.

2:00 o'clock.

MUSEUM LECTURE ROOM.

Chairman—Professor Wm. E. Praeger, Kalamazoo.

Secretary—Miss Helen M. King, Saginaw.

1. The Importance of Field Work in Botany and Zoölogy,
Dr. L. H. Harvey, Western State Normal School.
2. Possibilities for Field Work in City High School Courses,
Miss Ethel B. Chase, MacMillan High School, Detroit.
3. Agriculture in Tecumseh High School,
Superintendent D. P. McAlpine, Tecumseh.
4. Report of Committee on the Correlation of High School Sciences with Agriculture,
Assistant Professor J. B. Pollock, University of Michigan.
5. Discussions.

Saturday Morning, March 30

8:30 o'clock.

FIELD EXCURSIONS.

Weather permitting, field excursions will be made as indicated below, to demonstrate methods applicable to high school work. Those wishing to participate are asked to present themselves promptly at 8:30, Room 101, South Wing, with means for taking notes. The sections will return to the same room at 11:00 A. M. to review the results of the excursion.

Should the weather forbid the field work, a substitute will be offered indoors.

- Sec. 1. Trees and Shrubs in Winter Condition,
Led by Dr. J. B. Pollock.
- Sec. 2. Trees and Shrubs in Winter Condition,
Led by Dr. H. A. Gleason.
- Sec. 3. Trees and Birds,
Led by Mr. E. L. Moseley.
- Sec. 4. Birds,
Led by Dr. R. W. Hegner.

COMMERCIAL CONFERENCE

(Admission by badge.)

Friday Afternoon, March 29

2:00 o'clock.

ROOM B-8, HIGH SCHOOL.

Chairman—Mr. Lewis Cass Rauch, Detroit.

Secretary—Mr. J. J. Schmitt, Port Huron.

- 1. Opening Remarks.
Chairman Lewis Cass Rauch, Detroit.
- 2. Proper Dictation in the Teaching of Shorthand,
Mr. C. B. Bowerman, Principal Commercial Department,
Central High School, Detroit.
Discussion led by
Mrs. Kate Wainwright, Cleary College, Ypsilanti.
- 3. Billing Demonstration on Remington Adding and Subtracting Typewriter,
Miss Anna Barker, Detroit.

Saturday Morning, March 30

9:00 o'clock.

4. Commercial English,
Mr. W. W. Knisley, Principal Commercial Department,
Ferris Institute, Big Rapids.
Discussion led by
Mr. W. J. Frazier, Eastern High School, Detroit.
5. Admission Requirements in Business and Shorthand,
Principal W. A. Morse, Western High School, Detroit.
General Discussion.
6. Suggestions for the Good of the Commercial Section.
7. Business Meeting.

PHYSIOGRAPHY CONFERENCE

(Admission by badge.)

Friday Afternoon, March 29

1:30 o'clock.

GEOLOGICAL LABORATORY, ECONOMICS BUILDING.

Chairman—Mr. I. D. Scott, University of Michigan.

Secretary—Miss Grace Ellis, Grand Rapids.

1. The Glacial Geology of the Northern Peninsula, Leverett.
A review,
Miss Helen M. Martin, Battle Creek.
2. The Surface Formations of the Southern Peninsula, Leverett.
A review,
Miss Bernice I. Haug, Central High School, Detroit.
3. The Late Glacial and Post Glacial Uplift of the Michigan
Basin, Hobbs. A review,
Superintendent F. W. Frostic, St. Charles.
4. The Use of the United States Weather Map in Schools,
Professor Mark Jefferson, State Normal College.
5. New Interest in Familiar Places,
Miss Caroline C. Harvey, Eastern High School, Detroit.
6. How is the Atmosphere Heated?
Miss Ina M. Ockerman, Port Huron.
7. The Upper Atmosphere,
Superintendent M. Otterbein, Dundee.

A local Geological Excursion will be conducted on Saturday morning.

DRAWING CONFERENCE

(Admission by badge.)

Friday Afternoon, March 29

2:00 o'clock.

ART LECTURE ROOM, ALUMNI MEMORIAL BUILDING.

Chairman—Miss Alice V. Guysi, Supervisor of Drawing of Detroit Schools.

Secretary—Miss Bertha Goodwin, State Normal College.

2:00-3:00 o'clock.

1. Round Table (details of which will be printed in the next edition of this program).

3:00 o'clock.

2. Lecture:
Professor H. R. Cross, University of Michigan.
3. Exhibit of Drawing and Craft Work from the Schools and Colleges of the State.

MICHIGAN STATE ATHLETIC ASSOCIATION

Friday Evening March 29,

7:00 o'clock.

ROOM B-13, HIGH SCHOOL

Chairman—Prin. W. W. Warner, Saginaw.

Secretary-Treasurer—Mr. G. G. Bechtel, Detroit.

1. General Discussion of Interscholastic Athletics.
2. Election of officers.

Members of the Schoolmasters' Club

Life Members

SWARTHMORE, PA.
Dennison, Walter

UNIVERSITY
Kelsey, F. W.

Members for Ten or More Consecutive Years

ADRIAN
Curtis, A. E.
Gallup, E. E.
ANN ARBOR
Atkins, Edith Emma
Chute, H. N.
Hawkes, W. H.
Jocelyn, L. P.
Porter, Alice
Slauson, H. M.
Wines, L. D.
BATTLE CREEK
Coburn, W. G.
DETROIT
Arbury, Fred W.
DET. CASS TECH.
Cooke, C. S.
Springer, D. W.
DETROIT CENTRAL
Adams, C. F.

Bishop, Mrs. H. A.
Hull, Isabella H.
Irwin, F. C.
DETROIT EASTERN
Miner, Mary L.
Pettee, Edith E.
FLINT
Nutt, H. D.
GRAND RAPIDS
Davis, J. B.
Hulst, Cornelia S.
Jennings, Albert
LOCKPORT, ILL.
Swain, G. R.
NORMAL COLLEGE
Buell, Bertha G.
D'Ooge, Benj. L.
Everett, J. P.
Jones, L. H.
Lyman, E. A.

Peet, B. W.
Strong, E. A.
PLYMOUTH
Isbell, W. N.
PONTIAC
McCarroll, Sarah
PORT HURON
Lewis, W. F.
SAGINAW
Warriner, E. C.
UNIVERSITY
Beman, W. W.
Cross, A. L.
Finney, B. A.
Kelsey, F. W.
Markley, J. L.
Newcombe, F. C.
Ziwet, Alexander
YPSILANTI
Arbaugh, W. B.

Members for Five or More Consecutive Years

ADRIAN
Curtis, A. E.
Gallup, E. E.
ALBION COLLEGE
Demorest, F. C.
Greene, C. W.
ANN ARBOR
Adams, O. V.
Atkins, Edith Emma
Breed, Gertrude
Chute, H. N.
Essery, E. E.
Hawkes, W. H.
Jocelyn, L. P.
Porter, Alice
Slauson, H. M.
Sturgis, Martha
Wines, L. D.
BATTLE CREEK
Coburn, W. G.
Krell, Carrie
BAY CITY
Gates, Erie L.
Sharpe, E. M.
Taylor, Harriet L.
BENTON HARBOR
Wright, W. R.
BERRIEN SPRINGS
Abell, E. L.

CENTRAL NORMAL
Larzelere, C. S.
CLEARY BUS. COL.
Cleary, P. R.
DETROIT
Arbury, Fred W.
Hull, L. C.
Spain, C. L.
DETROIT CASS TEC.
Comfort, B. F.
Cooke, C. S.
Cooper, L. G.
Phelps, Nancy S.
Springer, D. W.
DETROIT CENTRAL
Adams, C. F.
Bartlett, A. E.
Bates, F. O.
Bechtel, G. G.
Bishop, Mrs. H. A.
Bowerman, C. B.
Bromley, Lillian M.
Conover, L. Lenore
Copeland, Cornelia A.
Darnell, Albertus
Frost, H. H.
Gee, E. F.
Goldman, Miriam D.
Hull, Isabella H.

Irwin, F. C.
Jones, A. F.
Mackenzie, David
DETROIT EASTERN
Bishop, J. Remson
Kimball, Edith M.
McMillan, D. W.
Miner, Mary L.
Pettee, Edith E.
Strubel, R. H.
DETROIT HIGGINS
Roper, Gertrude
DETROIT HOME &
DAY
Courtis, S. A.
DETROIT McMILLAN
Wagner, T. E.
DET. UNIV. SCHOOL
Milner, Florence
DETROIT WESTERN
Bates, Angie
Corns, J. H.
Frutig, Marie L.
Kerns, Martha
Matthews, J. W.
Meiser, Augusta B.
Merrill, J. W.
Morse, W. A.
Weir, W. W.

FERRIS INSTITUTE

Ferris, W. N.

FLINTCody, A. N.
Gold, Mary E. S.
Nutt, H. D.
Parmlee, L. S.
Wade, C. G.**GRAND RAPIDS**Davis, J. B.
Greeson, W. A.
Hulst, Cornelia S.
Jennings, Albert
Stearns, Frances L.**HASTINGS**Allison, Clara J.
Longman, M. W.**HILLSDALE COL.**

Mauck, J. W.

JACKSON

Marsh, E. O.

KALAMAZOOGregg, Jessie S.
Hartwell, S. O.**KALAMAZOO COL.**Praeger, W. E.
Williams, C. B.
Williams, G. A.**LANSING**

Wright, L. L.

LOCKPORT, ILL.

Swain, G. R.

MANCHESTER

Kirchhofer, Marie

MONROEGilday, Selma
Highley, A. M.**NILES**

Allen, Hilah L.

NORMAL COLLEGEBuell, Bertha G.
D'Ooge, Benj. L.
Everett, J. P.
Harvey, N. A.
Jones, L. H.
Lyman, E. A.
Peet, B. W.
Strong, E. A.
Wilber, H. Z.**OAK PARK, ILL.**

Lee, L. B.

PLYMOUTH

Isbell, W. N.

PONTIACDudley, S. M.
McCarroll, Sarah
Travis, Ora**PORT HURON**Chapin, Allie B.
Crane, Mrs. S. A.
Davis, H. A.
Easton, A. J.
Lewis, W. F.**SAGINAW**Bricker, J. I.
Warner, W. W.
Warriner, E. C.**ST. JOHNS**

Daboll, Winifred C.

ST. LOUIS

Forsythe, L. L.

SWARTHMORE, PA.

Dennison, Walter.

TRAVERSE CITY

Tyler, L. L.

UNIVERSITYAngell, James B.
Beman, W. W.
Bonner, Campbell
Bradshaw, J. W.
Canfield, A. G.
Cross, A. L.
Diekhoff, T. J. C.
Dow, E. W.
Finney, B. A.
Hall, A. G.
Hobbs, W. H.
Kelsey, F. W.
Lichty, D. M.
Markley, J. L.
Meader, C. L.
Newcombe, F. C.
Running, T. R.
Tilley, M. P.
Van Tyne, C. H.
Whitney, A. S.
Winkler, Max
Ziwet, Alexander
WESTERN NORMAL
Burnham, Ernest
Hickey, T. Paul
Waldo, D. B.
YPSILANTI
Arbaugh, W. B.
Ross, De Forest**Members for Three or More Consecutive Years****ADRIAN**Corbus, Adelle L.
Curtis, A. E.
Gallup, E. E.
Mickens, C. W.
Priddy, Bessie L.
Reed, E. J.
Schaible, Ida M.**ALBION**McDiarmid, L. A.
ALBION COLLEGE
Demorest, F. C.
Greene, C. W.**ANN ARBOR**Adams, O. V.
Aiken, W. M.
Atkins, Edith Emma
Bennett, Ella M.
Breed, Gertrude
Brightman, Hazel
Chute, H. N.
Essery, E. E.

Goodell, F. Maude

Hawkes, W. H.
Jocelyn, L. P.
Lusby, Lulu
McCain, A. B.
O'Brien, Sarah
Porter, Alice
Purtell, Catherine
Ray, Anna M.
Rothman, Alice
Shaw, Edith W.
Slauson, H. M.
Smalley, A. W.
Sturgis, Martha
Wines, L. D.**BATTLE CREEK**Coburn, W. G.
Krell, Carrie
Martin, Helen M.**BAY CITY**Gates, Erie L.
Hunker, Emma G.

Kern, Kate

Liskow, Julia
Sharpe, E. M.
Sloan, N. B.
Taylor, Harriet L.**BENTON HARBOR**

Wright, W. R.

BERRIEN SPRINGS

Abell, E. L.

BIG RAPIDS

Whitney, Edward

BIRMINGHAM

Starr, Rhoda

BOYNE CITY

Butler, L. A.

CENTRAL NORMAL

Larzelere, C. S.

CHARLEVOIX

De Voe, I. M.

CHELSEA

Hendry Frank

CHICAGO, ILL.

Boyer, C. J.

Burr, C. J.

CLEARY BUS. COLL.

Cleary, P. R.

DETROIT

Arbury, Fred W.

Beverley, Clara

Cornwall, H. D.

Frederick, O. G.

Guysi, Alice V.

Hull, L. C.

Morse, J. A.

Rauch, L. C.

Spain, C. L.

DETROIT CASS TEC.

Comfort, B. F.

Cooke, C. S.

Cooper, L. G.

Flintermann, Emily A.

Phelps, Nancy S.

Skeels, A. D.

Springer, D. W.

DETROIT CENTRAL

Adams, C. F.

Bartlett, A. E.

Bates, F. O.

Bechtel, G. G.

Bishop, Mrs. H. A.

Bowerman, C. B.

Bromley, Lillian M.

Conover, L. Lenore

Copeland, Cornelia A.

Darnell, Albertus

Frost, H. H.

Gee, E. F.

Goldman, Miriam D.

Hawley, Elizabeth W.

Hine, Katherine G.

Hull, Isabella H.

Irwin, F. C.

Jones, A. F.

Lowry, Florella R.

Mackenzie, David

Miller, E. L.

Palmer, Hattie M.

Rivett, B. J.

Sargeant, Charlotte H.

Stocking, W. R.

Tatlock, O.

Thompson, E. C.

Wattles, Helen

Wentworth, W. H.

DETROIT EASTERN

Bishop, J. Remson

Elliott, Lucy

Kimball, Edith M.

Klein, Adele

McMillan, D. W.

McSweeney, Amelia

Miner, Mary L.

Pettee, Edith E.

Strubel, R. H.

Wilson, Jean W.

DETROIT HIGGINS

Roper, Gertrude

DETROIT HOME &
DAY

Courtis, S. A.

Liggett, Miss J. M.

DETROIT McMILLAN

Cody, Frank

Wagner, T. E.

DET. RIVER ROUGE

Falk, Gertrude

McDonald, A.

Stark, Helen

DETROIT UNIVERSI-
TY SCHOOL

Milner, Florence

DETROIT WESTERN

Bancroft, Nellie E.

Barney, Bertha C.

Barney, Blanche K.

Bates, Angie

Corns, J. H.

Frutig, Marie L.

Holmes, F. H.

Kerns, Martha

Matthews, J. W.

Meiser, Augusta B.

Merrill, J. W.

Morse, W. A.

Sundstrom, Elizabeth

Waples, Marcia

Weir, W. W.

Wilkinson, A. O.

FENTON

Hoyle, Edith L.

Wood, Helen L.

FERRIS INSTITUTE

Ferris, W. N.

FLINT

Cody, A. N.

Gold, Mary E. S.

Nutt, H. D.

Parmlee, L. S.

Wade, C. G.

GRAND RAPIDS

Davis, J. B.

Greeson, W. A.

Hathaway, W. H.

Hulst, Cornelia S.

Jennings, Albert

Jones, Anna S.

Kennedy, Keith

Stearns, Frances L.

Stetson, P. C.

HASTINGS

Allison, Clara J.

Hinckley, C. G.

Longman, M. W.

McNall, Jessie

HILLSDALE

Gier, S. J.

HILLSDALE COL.

Mauk, J. W.

HOWELL

Peters, Winifred

JACKSON

Marsh, E. O.

KALAMAZOO

Gregg, Jessie S.

Hartwell, S. O.

Worth, E. N.

KALAMAZOO COL.

Bailey, Mark

Praeger, W. E.

Williams, C. B.

Williams, G. A.

LANSING

Wright, L. L.

LEADVILLE, COLO.

McWilliams, L. D.

LOCKPORT, ILL.

Swain, G. R.

MANCHESTER

Kirchhofer, Marie

MARINE CITY

Hazelton, R.

MICH. AG. COLLEGE

French, W. H.

MONROE

Gilday, Selma

Highley, A. M.

Smith, R. C.

MT. CLEMENS.

Jacobi, Helen L.

La Furge, Chas.

Rennie, Florence M.

NILES

Allen, Hilah L.

NORMAL COLLEGE

Buell, Bertha G.

D'Ooge, Benj. L.

Elliott, C. M.

Everett, J. P.

Harvey, N. A.

Jones, L. H.

Lyman, E. A.

Pearce, W. H.

Peet, B. W.

Phelps, Jessie

Strong, E. A.

Wilber, H. Z.

OAK PARK, ILL.

Lee, L. B.

OLIVET

Shedd, J. C.

Sternberg, James

PLYMOUTH

Isbell, W. N.

PONTIAC

Dudley, S. M.

Jenner, G. L.

McCarroll, Sarah
Travis, Ora
PORT HURON
Chapin, Allie B.
Crane, Mrs. S. A.
Davis, H. A.
Easton, A. J.
Lewis, W. F.

ROME

Muma, J. A.
SAGINAW
Bricker, J. I.
Warner, W. W.
Warriner, E. C.

SALINE

Walling, W. L.

ST. CHARLES

Frostic, F. W.

ST. JOHNS

Daboll, Winifred C.

ST LOUIS

Forsythe, L. L.

SOUTH HAVEN

Prentice, A. D.

SWARTHMORE, PA.

Dennison, Walter

TECUMSEH

McAlpine, D. P.

TRAVERSE CITY UNIVERSITY

Angell, James B.
Beman, W. W.
Bigelow, S. L.
Bonner, Campbell
Bradshaw, J. W.
Canfield, A. G.
Crittenden, A. R.
Cross, A. L.
Denison, C. S.
Diekhoff, T. J. C.
D'Ooge, M. L.
Dow, E. W.
Finney, B. A.
Ford, W. B.
Glover, J. W.
Hall, A. G.
Hauhart, W. F.
Hildner, J. A. C.
Hobbs, W. H.
Jordan, Myra B.
Kelsey, F. W.
Lichty, D. M.
Lorch, Emil
Love, C. E.
McLaughlin, W. A.

Markley, J. L.
Meador, C. L.
Nelson, J. R.
Newcombe, F. C.
Running, T. R.
Scott, F. N.
Scott, I. D.
Talamon, R.
Tilley, M. P.
Van Tyne, C. H.
Wagner, C. P.
Whitney, A. S.
Williams, N. H.
Winkler, Max
Ziwet, Alexander
WESTERN NORMAL
Burnham, Ernest
Harvey, L. H.
Hickey, T. Paul
Parsons, Maude
Waldo, D. B.
WILLIAMSTON
Hornberger, J. J.
YPSILANTI
Arbaugh, W. B.
Hardy, Carrie A.
Ross, De Forest

List of Members for 1912

ADRIAN

Buss, E. C.
Corbus, Adelle L.
Curtis, A. E.
Fox, Frances
Gallup, E. E.
Gallup, Mrs. E. E.
Irland, Helen
Mickens, C. W.
Morden, Mary
Palmer, Cora E.
Priddy, Bessie L.
Reed, J. E.
Schaible, Ida M.
Van Auken, Blanche

ALBION

Bolster, Edith G.
McDiarmid, L. A.
Martin, Blanche E.

ALBION COLLEGE

Barr, C. E.
Demorest, F. C.
Fall, Delos
Goodrich, F. S.
Greene, C. W.
Lutz, Frederick

ALLEN

Kempton, R. M.

ALMA

Ewing, J. T.
Notestein, F. M.

ANN ARBOR

Adams, O. V.
Aiken, W. M.
Atkins, Edith Emma
Benham, A. S.
Bennett, Ella M.
Breed, Gertrude
Brightman, Hazel
Brown, Jessie
Chute, H. N.
Downs, Lulu
Essery, E. E.
Goodell, F. Maude
Hawkes, W. H.
Gundert, Emily
Hooker, Susie M.
Joanna, Sister M.
Jocelyn, L. P.
Kirchhofer, Julia
Lusby, Lulu
McCain, A. B.
McDivitt, Maggie T.
Magdalene, Sister M.
Moran, S. A.
O'Brien, Sarah
O'Hearn, May
Plympton, Clara G.
Porter, Alice
Purtell, Catherine
Ray, Anna M.
Robinson, Cora

Rothman, Alice
Shaw, Edith W.
Slauson, H. M.
Smalley, A. W.
Sturgis, Martha
Sudworth, Gertrude
Ulrich, Mary
Walsh, May
West, Jeannette S.
Whedon, Sara
Wines, L. D.
ATHENS
Teninga, Gertrude
BATTLE CREEK
Atkinson, H. R.
Benson, Walfred
Coburn, W. G.
Kirkpatrick, Louise R.
Krell, Carrie
Mann, Jessie
Martin, Helen M.
BAY CITY
Bishop, Lola L.
Bothe, Eva
Campbell, Florence
Day, Agnes A.
Edwards, Bess B.
Ferguson, E. E.
Gates, Erie L.
German, W. L.
Grinnell, E. M.

- Hine, Charlotte
 Hunker, Emma G.
 Hunter, I. B.
 Kern, Kate
 King, Chas. A.
 Liskow, Julia
 MacGregor, Helen
 McCombs, Ethel
 McGinnis, E. K.
 Merrill, Frances H.
 Morris, W. W.
 Paxton, R. D.
 Reid, Mabel M.
 Rich, L. H.
 Schroeder, Matilda
 Sharpe, E. M.
 Skinner, G. S.
 Sloan, N. B.
 Taylor, Harriet L.
 Ten Eyck, H. E.
 Walter, C. H.
 Wells, Berta A.
BELLEVILLE
 Clark, Genevieve
BENTON HARBOR
 Wright, W. R.
BERRIEN SPRINGS
 Abell, E. L.
BIG RAPIDS
 Marlott, Elizabeth
 Whitney, Edward
 Wilson, Winifred
BIRMINGHAM
 Smith, Leslie
 Starr, Rhoda
BLISSFIELD
 Torrey, Grace
BOYNE CITY
 Butler, L. A.
CALEDONIA
 Finkbeiner, Laura
CARO
 Hollingshead, Laura
CASS CITY
 Harnish, W. E.
 Kennedy, J. E.
 Lawrence, Mabel
 MacKenzie, Bertha
CENTRAL NORMAL
 Allen, Maude E.
 Brooks, K. P.
 Kelly, John
 Larzelere, C. S.
 Woodward, Alvalyn
CHARLEVOIX
 De Voe, I. M.
CHARLOTTE
 Carrick, C. H.
 Howard, Lillian
 Van Kleck, Mabel
CHELSEA
 Hendry, Frank
- CHICAGO, ILL.**
 Baker, F. E.
 Boyer, C. J.
 Brooker, A. G.
 Burr, C. J.
 Gaige, F. H.
 James, A. P.
 Johnson, H. M.
 Sanderson, J. C.
 Taber, C. W.
CLEARY BUS. COL.
 Cleary, P. R.
 Wainwright, Mrs. K.
COLDWATER
 Sisman, Elsie
 Stinebower, F. A.
CROSWELL
 Manning, G. F.
DETROIT
 Alecia, Sister M.
 Arbury, Fred W.
 Benedicta, Sister M.
 Beverley, Clara
 Cornwall, H. D.
 Coughlan, Emma E.
 Fleming, Jennie M.
 Frederick, O. G.
 Guysi, Alice V.
 Hayner, Elizabeth
 Hull, Lawrence C.
 Hurley, Marion
 Linn, Flora R.
 Margah, Katherine C.
 Martindale, W. C.
 Morse, J. A.
 Ommaculata, Sister M.
 Priest, Maude A.
 Rauch, L. C.
 Shaw, E. R.
 Spain, C. L.
 Sullivan, Margaret
 Thomas, J. F.
 Trybon, J. H.
 Wolverton, Annie W.
DETROIT CASS TEC.
 Allen, E. G.
 Comfort, B. F.
 Cooke, C. S.
 Cooper, L. G.
 Flintermann, Emilie A.
 Glass, W. N.
 Knight, Jean B.
 Phelps, Nancy S.
 Phillips, Nellie G.
 Skeels, A. D.
 Springer, D. W.
 St. John, Helen M.
 Woodward, Mabel
DETROIT CENTRAL
 Adams, C. F.
 Albrecht, E. G.
 Anderson, Flora L.
- Ashleman, Lorley Ada
 Bammel, Grace
 Bartlett, A. E.
 Bates, F. O.
 Bechtel, G. G.
 Bishop, Mrs. H. A.
 Bishop, Helen L.
 Bleazby, Leah
 Bowerman, C. B.
 Bromley, Lillian M.
 Burgess, L. G.
 Camp, Mary F.
 Chapman, H. H.
 Collins, J. A.
 Conover, Kate B.
 Conover, L. Lenore
 Cook, Frances C.
 Copeland, Cornelia
 Darnell, Albertus
 Davis, D. H.
 Dietz, Ada K.
 Dole, Amelia H.
 Duffy, Genevieve K.
 Fell, D. J.
 Fishbain, S. S.
 Frost, H. H.
 Fullerton, Anna
 Gamble, Mary A.
 Gee, E. F.
 Gerls, Marian
 Gibb, E. J.
 Goldman, Mirian D.
 Graham, A. A.
 Grelling, Adeline
 Haberstiche, Frances
 Hadley, May
 Haug, Bernice L.
 Hawley, Elizabeth W.
 Hill, Grace A.
 Hine, Katherine G.
 Hull, Isabella H.
 Irwin, F. C.
 Jones, A. F.
 Joslin, Ellen E.
 Levens, Caroline
 Lewernez, Carol M.
 Lowry, Florella R.
 Mackenzie, Agnes H.
 Mackenzie, David
 Malcomson, Rachel
 Mann, L. B.
 Mayworm, Edna J.
 Millard, Grace G.
 Miller, E. L.
 Mutschel, Matilda
 Palmer, Hattie M.
 Plee, Nellie O.
 Rhines, Minerva B.
 Richardson, Ruby
 Rivett, B. J.
 Roby, Miss A. M.
 Sargeant, Charlotte H.

- Sargeant, W. A.
 Schwartz, Elsie M.
 Sickley, C. E.
 Spence, Chas.
 Steimle, E. M.
 Stocking, W. R.
 Tatlock, O.
 Thompson, E. C.
 Thompson, Margaret
 Watt, Isabella R.
 Wattles, Helen
 Wentworth, W. H.
 Wilson, J. A.
DETROIT EASTERN
 Angstman, Charlotte S.
 Bishop, J. Remson
 Coyle, Harriette
 Duffy, Irene A.
 Elliott, Lucy
 Frazier, J. W.
 Gartner, Katherine M.
 Gordon, A. L.
 Haller, Elsa
 Harbeck, Ida C.
 Harvey, Caroline C.
 Hauser, Alice
 Jackson, Virginia M.
 Kimball, Edith M.
 Klein, Adele
 McMillan, D. W.
 McSweeney, Amelia
 Martin, Rose
 Miner, Mary L.
 Niederpuem, A.
 O'Dea, Harriet
 Pettee, Edith E.
 Putnam, R. R.
 Strubel, R. H.
 Wilson, Jean W.
 Wood, Mabel L.
DETROIT HIGGINS
 Lightbody, Wm.
 Roper, Gertrude
**DETROIT HOME &
 DAY**
 Courtis, S. A.
 Liggett, Miss J. M.
DETROIT McMILLAN
 Chase, Ethel B.
 Cody, Frank
 Wagner, T. E.
**DETROIT RIVER
 ROUGE**
 Falk, Gertrude
 Grant, Lee
 Jones, Winnie M.
 McDonald, A.
 Outwater, Olive
 Stark, Helen
**DETROIT UNIV,
 SCHOOL**
 Milner, Florence
- DETROIT WESTERN**
 Alley, Sadie M.
 Bancroft, Nellie E.
 Barney, Bertha C.
 Barney, Blanche K.
 Bates, Angie
 Brown, Margaret C.
 Chapman, I. E.
 Corns, J. H.
 Coughlan, Nina
 Farnsworth, Mary F.
 Frutig, Marie L.
 Hemsted, Johanna R.
 Hickok, D. W.
 Holmes, E. L.
 Holmes, F. H.
 Kepler, F. R.
 Kerns, Martha
 Ludke, C. W.
 Marquardt, Helena
 Matthews, J. W.
 Meiser, Augusta B.
 Merrill, J. W.
 Morse, W. A.
 Pitts, Dora
 Scott, Margaret E.
 Seiffert, Berthold
 Seiffert, Elsa
 Smalley, Harriet M.
 Smith, Grace
 Sundstrom, Elizabeth
 Thomas, G. C.
 Towar, Ethel L.
 Waples, Marcia
 Weir, W. W.
 Wilkinson, A. O.
 Willoughby, Ruth A.
 Wiltsie, Katherine D.
DEXTER
 Cole, E. L.
 McManus, Zella
 Ronan, Isabelle
 Wamsley, Jennie
DOWAGIAC
 Austin, C. L.
 Ballard, Edna L.
 Conkling, W. E.
 Kirkland, Amelia
 Mead, A. R.
 O'Brien, E. L.
 Walker, Anita
DUNDEE
 Jedele, Ruth
 Otterbein, M.
 Wilkinson, Florence
DURAND
 Holmes, Iva
EAST JORDAN
 Heitsch, R. D.
ELKTON
 Smith, R. H.
- ESCANABA**
 Supé, Carolina A.
FENTON
 Cody, E. E.
 Hoyle, Edith L.
 Mothersill, M. H.
 Wheeler, Eleanor
 Wood, Helen L.
FERRIS INSTITUTE
 W. N. Ferris
 Knisley, W. W.
FLINT
 Algae, Margaret T.
 Baker, Jessie
 Beardsley, Mary
 Burns, J. W.
 Cody, A. N.
 Gold, Mary E. S.
 Grim, Florence
 Kingsley, F. Adelaide
 Lewis, Henrietta
 McKenney, Nellie
 McMullen, Susie
 Mudge, Harriet
 Nutt, H. D.
 Parmelee, L. S.
 Puffer, W. J.
 Russell, W. J.
 Wade, C. G.
 Wellwood, J. E.
 Wellock, Ruth
 Williams, Bertha A.
GALESBURG
 Boynton, R. J.
GRAND RAPIDS
 Bullock, D. Edith
 Conlon, May F.
 Davis, J. B.
 Doran, Julia
 Ellis, Grace
 Greeson, W. A.
 Hathaway, W. H.
 Hayes, E. Lewis
 Hinsdale, Mildred
 Hulst, Cornelia S.
 Jennings, Albert
 Jones, Anna S.
 Kennedy, Keith
 Schweitzer, Louise
 Stearns, Frances L.
 Stetson, P. C.
 Strahan, Margaret
GREENVILLE
 Bemis, Bata M.
HASTINGS
 Allison, Clara J.
 Hinkley, C. G.
 Longman, M. W.
 McNall, Jessie
HIGHLAND PARK
 Knapp, T. J.
 Mumford, E. H. E.

- HILLSDALE
 Buck, Gertrude
 Clancy, D. G.
 Gier, S. J.
 HILLSDALE COL.
 Klocksiam, A. C.
 Mauck, J. W.
 Tucker, D. A.
 HOLLAND
 Brainerd, S. J.
 Lange, H. C.
 HOLLY
 Skinner, S. J.
 HOMER
 Flint, A. J.
 HOPE COLLEGE
 Dimment, E. D.
 HOWELL
 Cole, Inez
 Hagle, Maude
 Peters, Winifred
 HUDSON
 Poor C. L.
 Yokom, M. C.
 IONIA
 Lister, W. S.
 JACKSON
 Britten, Caroline E.
 Edmonson, J. B.
 Hallock, Ella
 Josenhans, R. J.
 Marsh, E. O.
 Smith, Syra
 Trumble, O. S.
 Wilcox, Elizabeth L.
 JONESVILLE
 Lovell, Mary E.
 Rumsey, Alice
 KALAMAZOO
 Bach, Ellen B.
 Bancroft, Elizabeth H.
 Bourns, Marcella
 Brown, Lillian M.
 Carney, Chester S.
 Chamberlin, N. T.
 Dean, Jeanette G.
 Gregg, Jessie S.
 Hammond, H. E.
 Hartwell, S. O.
 Howard, Sarah M.
 Huff, Fred S.
 Knauss, K. E.
 Kysor, Dania
 Waite, Charlotte A.
 Waite, G. S.
 Whittemore, H. O.
 Winsor, Marie A.
 Worth, E. N.
 KALAMAZOO COL.
 Bailey, Mark
 Perkins, Agnes S.
 Praeger, W. E.
 Williams, C. B.
 Williams, G. A.
 LANSING
 Bishop, W. T.
 Keeler, F. L.
 Pattengil, H. R.
 Wright, L. L.
 LAKE LINDEN
 Fisher, Henry
 Lee, H. D.
 LAKE ODESSA
 Gibbons, Olive N.
 LAWRENCE
 Pierce, F. S.
 LAWTON
 Dickie, Fern
 LEADVILLE, COLO.
 McWilliams, L. D.
 LOCKPORT, ILL.
 Swain, Geo. R.
 MANCHESTER
 Kirchhofer, Marie
 McCallum, C. W.
 MANISTEE
 Bryan, C. H.
 MANISTIQUE
 Edmonds, G. P.
 MARINE CITY
 Bennett, Albert A.
 Hazelton, R.
 MARSHALL
 Bartoo, G. C.
 MASON
 Heitsch, Grace
 Riggs, W. D.
 MENOMINEE
 Davis, J. N.
 MICHIGAN AGR. COL.
 French, W. H.
 Gilchrist, Maude
 Ryder, E. H.
 Snow, O. L.
 Snyder, Mrs. J. L.
 MIDLAND
 Morrell, L. G.
 MILAN
 Gemberling, J. B.
 MILFORD
 Chaffee, C. B.
 MONROE
 Cecile, Sister M.
 Evangelista, Sister M.
 Gildsay, Selma
 Highley, A. M.
 Moeller, J. H.
 Runyan, C. G.
 Shulz, Ellen
 Smith, R. C.
 Theodosia, Sister M.
 Wagner, Martha
 MT. CLEMENS.
 Barker, Mabel C.
 Glockzin, H. G.
 Jacobi, Helen L.
 La Furge, Chas.
 Rennie, Florence M.
 Schenk, Otto
 Thomas, Grace
 MUSKEGON
 Bennett, J. G.
 Craig, J. A.
 Frost, J. M.
 Kurtzworth, H. M.
 NASHVILLE
 Huckle, Jennie
 NILES
 Allen, Hilah L.
 NORMAL COLLEGE
 Barbour, F. A.
 Buell, Bertha G.
 Childs, H. Ethel
 D'Ooge, Benj. L.
 Elliott, C. M.
 Everett, J. P.
 Ford, R. C.
 Garner, Lota H.
 Goddard, Mary A.
 Goodison, Bertha
 Gorton, F. R.
 Harvey, N. A.
 Jones, L. H.
 Laird, S. B.
 Lathers, M. C.
 Lyman, E. A.
 Muir, Helen B.
 Olmstead, Anne H.
 Pearce, W. H.
 Peet, B. W.
 Phelps, Jessie
 Putnam, Mary B.
 Strong, E. A.
 Walton, Miss G. M.
 Wilber, H. Z.
 NORTHERN NORM.
 Spooner, C. C.
 OAK PARK, ILL.
 Lee, L. B.
 OLIVET COLLEGE
 Shedd, J. C.
 Sterenberg, James
 ONAWAY
 Milner, C. T.
 OWOSSO
 Jones, M. G.
 Moore, L. W.
 OXFORD
 De Witt, A. D.
 OXFORD, OHIO
 Bishop, Elizabeth L.
 Warden, Gertrude
 PARMA
 Howard, L. C.

PLYMOUTH

Isbell, W. N.
Johnson, Anna G.

PONTIAC

Alphonsine, Sister M.
Dudley, S. M.
Harris, Pauline
Jenner, G. L.
McCarroll, Sarah
Travis, Ora

PORT HURON

Anderson, Theo.
Brown, Frances
Chapin, Allie B.
Crane, Mrs. S. A.
Davis, H. A.
Easton, A. J.
Fyan, Lila
Lewis, W. F.
Olney, Daisy

PORTLAND

Johnson, J. H.

RICHMOND

Newell, Mabel A.

ROMEO

Fessenden, Agnes
Muma, J. A.

ROMULUS

Romine, F. E.

ROSE CITY

Gould, Wm. E.

ROYAL OAK

Lederle, E. J.

SAGINAW

Bricker, J. I.
King, Helen B.
Mitchel, J. W.
Tanis, J. E.
Van Auken, M. Hazel
Warner, W. W.
Warriner, E. C.

SALINE

Walling, W. L.

SCHOOLCRAFT

Thoms, H. W.

ST. CHARLES

Frostic, F. W.

ST. CLAIR

Keen, P. M.
Tripp, W. J.
Woodward, Beatrice

ST. JOHNS

Daboll, Winifred C.

ST. LOUIS

Forsythe, L. L.

SOUTH HAVEN

Carnes, Eva P.
Prentice, A. D.

SWARTHMORE, PA.

Dennison, Walter

TECUMSEH

Connely, Mildred M.
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